



Rocky Flats Environmental Technology Site

RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)/PRE-DEMOLITION SURVEY REPORT (PDSR)

Building 440 Westside Closure Project

REVISION 0

June 1, 2005

Change Control:

- Rev 1. Revised various Sections for typos – 6/6/05
- Rev 1. Added discussion in Section 4.1, 8 and Exec Summary about asbestos floor tile controls during demo – 6/6/05
- Rev 1. Added discussion in Section 3, 8 and Exec Summary about Room 114 railroad tracks during demo – 6/6/05
- Rev 1. Added discussion in Section 4.3, 8 and Exec Summary about paint booths – 6/6/05
- Rev 1. Added discussion in Section 3, 8 and Exec Summary about additional characterization under permacons and plenum during demolition – 6/6/05
- Rev 1. Added discussion in Section 3 about plenum contamination and Room 123A floor contamination – 6/6/05
- Rev 1. Added beryllium sample data in Attachment D – 6/6/05
- Rev 1. Revised Attachment E, DQA, to clarify radiological and asbestos results – 6/6/05

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**RECONNAISSANCE LEVEL CHARACTERIZATION
REPORT (RLCR)/PRE-DEMOLITION SURVEY REPORT
(PDSR)**

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REVISION 0

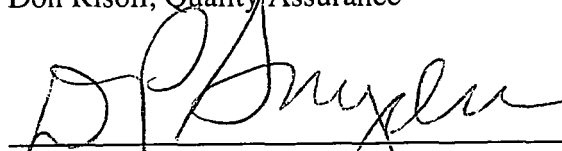
June 1, 2005

Reviewed by:


Don Risoli, Quality Assurance

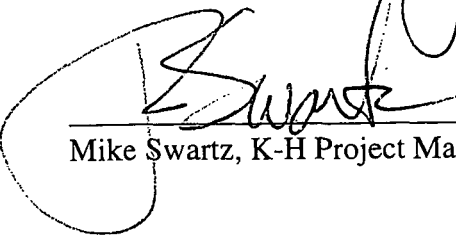
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ABBREVIATIONS/ACRONYMS

ACM	Asbestos Containing Material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
DCGL _{EMC}	Derived Concentration Guideline Level – elevated measurement comparison
DCGL _w	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, ventilation, air conditioning
HSAR	Historical Site Assessment Report
HEUN	Highly Enriched Uranyl Nitrate
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-based paint
LLW	Low-level waste
M	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
NORM	Naturally occurring radioactive material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, accuracy, representativeness, comparability and completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-demolition survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSA	Removable Surface Activity
RSP	Radiological Safety Practices
SVOCs	Semi-volatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total surface activity
VOCs	Volatile organic compounds

EXECUTIVE SUMMARY

Rev. 1. A combination Reconnaissance Level Characterization (RLC) and Pre-Demolition Survey (PDS) was performed to enable compliant disposition and waste management of Building 440 Westside. The Building 440 Eastside RLC/PDS has already been performed and approved by DOE and CDPHE. Because this Type 2 facility will be demolished, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). Facility surfaces characterized as part of this RLC/PDS included the walls, ceiling, and floor of the Building 440 Westside. Exterior radiological surveys for Building 440 were performed as part of the West Side Exterior PDS Report, which was approved on March 24, 2005 by DOE and CDPHE. Environmental media beneath and surrounding the facility was not within the scope of this RLC/PDS and will be addressed in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

The RLC/PDS encompassed both radiological and chemical characterization to enable compliant disposition and waste management pursuant to the D&D Characterization Protocol (MAN-077-DDCP). The characterization built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report for the Area 5-Group 9 Facilities, dated April 2003, Revision 1.

Rev. 1. Results indicate that no beryllium contamination exists in excess of the PDSP unrestricted release limits in the Building 440 Westside. Prior to the completion of the RLC/PDS, all necessary friable and non-friable asbestos abatement and satisfactory clearance sampling was conducted per CDPHE, Regulation No. 8, Part B, *Emission Standards for Asbestos*. There is approximately 300 square feet of Category 1 non-friable asbestos floor tile that will remain in the facility during demolition. Per the demolition work package, the asbestos floor tile surfaces will be protected during demolition and managed appropriately. Since the building was built prior to 1980, painted surfaces will be managed as PCB Bulk Product Waste. PCB ballast and hazardous waste items have been removed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations.

Rev. 1. Radiological fixed transuranic alpha contamination exists on the floor in Room 123A up to 6,374.7 dpm/100cm². The contaminated area of the floor will be protected prior to demolition, and removed and managed as low-level waste (LLW) during slab removal. Additionally, the internally contaminated Building 440 HEPA Exhaust Plenum is still remaining inside Room 122. This plenum has been sealed closed and will be protected prior to demolition. It will be removed during demolition and managed as LLW. All other areas within Building 440 are less than the radiological PDSP unrestricted release limits.

During demolition of the concrete and slab in Room 114, the inaccessible areas of the original slab and railcar tracks shall be further characterized prior to waste disposal determination. Additionally, during demolition, further characterization prior to waste disposal determination needs to take place for the floor areas under the two industrial-sized paint booths in Room 113 and 123, and the floor underneath the Room 122 HEPA Exhaust Plenum.

Rev. 1.

Based on radiologically contaminated equipment (i.e., the C-Cell, Repack glovebox, and glovebox ventilation system) that was once located in the Westside of the facility) and the contaminated floor in Room 123A, Building 440 Westside is classified as a RFCA Type 2 facility pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999). The waste will be managed as sanitary-PCB Bulk Product Waste, and LLW as appropriate. To ensure that the facility remains free of contamination and PDS data remain valid, Level 2 isolation controls have been established and the areas posted accordingly.

1 INTRODUCTION

Rev. 1. A combination Reconnaissance Level Characterization (RLC) and Pre-Demolition Survey (PDS) was performed to enable compliant disposition and waste management of the Building 440 Westside. The Building 440 Eastside RLC/PDS has already been performed and approved by DOE and CDPHE. Because this Type 2 facility will be demolished, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). Building surfaces characterized as a part of this RLC/PDS included the walls, ceiling and roof of Building 440 Westside. Exterior radiological surveys for Building 440 were performed as part of the West Side Exterior PDS Report, which was approved on March 24, 2005 by DOE and CDPHE.

Environmental media beneath and surrounding the facility were not within the scope of this RLC/PDS and will be addressed in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

Building 440 Westside was an "anticipated" Type 2 RFCA facility prior to the performance of this RLC/PDS effort. A Type 2 RLC had not yet been performed in this building because the building had been in operation until recently, thus the majority of the building surfaces were inaccessible for characterization. Since the performance of this RLC/PDS effort was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP), no further characterization of this facility is necessary.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed. Among these is Building 440. The location of this facility is shown in Attachment A, *Facility Location Map*. The west portion of the building is highlighted in yellow in Attachment A. This facility no longer supports the RFETS mission and will be removed to reduce Site infrastructure, risks and/or operating costs.

Before this Type 2 facility can be demolished, the Data Quality Objectives (DQOs) for a Pre-Demolition Survey (PDS) must be satisfied. This document presents the RLC/PDS results for the Building 440 Westside. The RLC/PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The RLC/PDS is built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report for the Area 5-Group 9 Facilities, dated April 2003, Revision 1.

1.1 Purpose

The purpose of this report is to communicate and document the results of the Building 440 Westside RLC/PDS effort. A PDS is performed prior to building demolition to define the final radiological and chemical conditions of a facility. Final conditions are compared with the release limits for radiological and non-radiological contaminants. PDS results will enable project personnel to make final disposition decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 Scope

This report presents the final radiological and chemical conditions of the Building 440 Westside facility. Environmental media beneath and surrounding the facility are not within the scope of this RLCR/PDSR and will be addressed in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used in designing this RLC/PDS were the same DQOs identified in the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). Refer to section 2.0 of MAN-127-PDSP for these DQOs.

2 HISTORICAL SITE ASSESSMENT

A facility-specific Historical Site Assessment Report (HSAR) for the Area 5-Group 9 Facilities, dated April 2003, Revision 1, was conducted to understand the facility history and related hazards. The assessment consisted of facility walk-downs, interviews, and document review, including review of the Historical Release Report (refer to the D&D Characterization Protocol, MAN-077-DDCP). Results were used to identify data gaps and needs, and to develop radiological and chemical characterization packages. Refer to Attachment B, *Historical Site Assessment Report*, for a copy of the Building 440 HSAR. In summary, the HSAR identified a potential for radiological, chemical, beryllium and asbestos hazards for the Westside.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

Building 440 Westside was characterized for radiological hazards per the RLCP/PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on the facility surfaces. Measurements were performed to evaluate the contaminants of concern. Based upon a review of historical and process knowledge, facility walk-downs, and MARSSIM guidance, a Radiological Characterization Plan was developed during the planning phase that describes the minimum survey requirements (refer to the RISS Characterization Project files for the Building 440 Radiological Characterization Plan). Two Class 1 and three Class 2 radiological survey unit packages were developed for the Building 440 Westside. Survey units 440504 and 440505 were designated as Class 1 because these areas are expected to contain, or have contained, residual radioactivity greater than the transuranic DCGL_w. Historical Site Assessment and process knowledge of this area provides a high degree of confidence that one or more individual measurements may exceed the DCGL_w. Survey units 440502, 440503, and 440506 were designated as Class 2 since these areas were not expected to contain any residual radioactivity greater than the transuranic DCGL_w, even though the Historical Site Assessment and process knowledge showed that these areas of the building stored and shipped TRU and LLW materials during past operations. Individual radiological survey unit packages are maintained in the RISS Characterization Project files.

Building 440 Westside survey unit packages were developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. Total surface activity (TSA), removable surface activity (RSA), and scan measurements were collected in accordance with RSP 16.02 *Radiological Surveys of Surfaces and Facilities*. Media samples were collected in accordance with RSP 16.03 *Radiological Samples of Building Media*. Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis*. Quality control measures were implemented relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*.

Rev. 1. A total of two-hundred twenty (220) total surface activity (TSA) measurements (153 random, 55 biased and 12 QC), two hundred eight (208) removable surface activity (RSA) measurements (153 random and 55 biased) and thirty-eight (38) surface media (paint) samples and thirty-eight (38) Pre and Post TSA and RSA measurements were collected from the Building 440 Westside. Wall and ceiling surfaces were factory original paint and thus were not media (paint) sampled. Therefore, the thirty-eight (38) floor samples were adequate to properly characterize the Building 440 Westside. A minimum alpha scan survey of 50% of all floor surfaces at biased locations and 5% of wall and ceiling surfaces of Class 2 areas was performed. Alpha scan surveys were performed on 100% of the accessible areas in Class 1 areas

Rev. 1. Radiological fixed transuranic alpha contamination exists on the floor in Room 123A up to 6,374.7 dpm/100cm². The contaminated area of the floor will be protected (using wood and/or metal plates) prior to demolition, and removed and managed as low-level waste (LLW) during slab removal. Although the area of contamination was only a few small localized areas within a one square meter area, the assumed contaminated boundary area was expanded to the east to the boundary line of the next clean media sample. Additionally, the internally contaminated Building 440 HEPA Exhaust Plenum is still remaining inside Room 122 (levels up to 457 pCi/gram of Americium-241 contamination exist within the plenum HEPA filters). This plenum has been sealed closed and will be protected prior to demolition. It will be removed during demolition and managed as LLW. Both the contaminated slab area and the plenum areas are denoted in red on the survey maps in Attachment C. There is no removable radiological contamination on the outside of the plenum or the Room 123A floor.

All other areas within Building 440 Westside are less than the radiological PDSP unrestricted release limits. Refer to Survey Unit 440504 survey map for the location of the radiologically contaminated floor and Survey Unit 440503 for the location of the plenum. Radiological survey data, statistical analysis results, survey locations and radiological scan maps are presented in Attachment C, *Radiological Data Summary and Survey Maps*. Isolation control postings are displayed on the building entrances to ensure no further radioactive materials are introduced.

Rev. 1. Room 114 was a railcar bay. In the early 1990's, the railcar tracks in Room 114 were covered with concrete; thus the original floor and railcar tracks were inaccessible for characterization during the RLC/PDS effort. Therefore, during demolition of the concrete and slab in Room 114, these inaccessible areas (i.e., the original slab and railcar tracks) shall be further characterized prior to waste disposal determination. Additionally, during demolition, further characterization prior to waste disposal determination needs to take place for the floor areas under the two industrial-sized paint booths in Room 113 and 123, and the floor underneath the Room 122 HEPA Exhaust Plenum.

Exterior radiological surveys for Building 440 were performed as part of the West Side Exterior PDS Report, which was approved on March 24, 2005 by DOE and CDPHE. The West Side Exterior PDS Report confirmed that the exterior surfaces of Building 440 do not contain radiological contamination above the surface contamination guidelines provided in the PDSP. The West Side Exterior PDS Report and survey data, statistical analysis results, and survey map locations are maintained in the RISS Characterization Project files.

4 CHEMICAL CHARACTERIZATION AND HAZARDS

Building 440 Westside was characterized for chemical hazards per the RLCP/PDSP. Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on, or in the facility. Based upon a review of historical and process knowledge, visual inspections, and PDSP DQOs, additional sampling needs were determined. A Chemical Characterization Plan was developed during the planning phase that describes sampling requirements and the justification for the sample locations and estimated sample numbers. The contaminants of concern were asbestos, beryllium, RCRA/CERCLA, lead and PCBs. Refer to Attachment D, *Chemical Summary Data and Sample Maps*, for details on sample results and sample locations. Isolation control postings are displayed on affected facility to ensure no hazardous materials are introduced.

4.1 Asbestos

In 1996, a comprehensive Sitex ACM inspection report identified ACM inside the building. During the RLC/PDS, a survey of building materials suspected of containing asbestos was conducted in Building 440. A CDPHE-certified asbestos inspector conducted the inspection in accordance with accordance with the *Asbestos Characterization Protocol, PRO-563-ACPR, Revision 1*. Materials suspected of containing asbestos were identified for sampling at the discretion of the inspector.

During the RLC/PDS, ten samples of building materials were collected and analyzed for asbestos content. One sample was identified as asbestos containing building material in Room 111 floor tile. The remaining nine samples are reported as non-detect. The 1996 Sitex data identified the ACM floor tile in Room 111, and the ACM in the mudded joints on the TSI piping systems. Prior to the completion of the RLC/PDS, all necessary friable and non-friable asbestos abatement and satisfactory clearance sampling was conducted per CDPHE, Regulation No. 8, Part B, *Emission Standards for Asbestos*.

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Rev. i.

There is approximately 300 square feet of Category 1 non-friable asbestos floor tile that will remain in the facility during demolition. Per the demolition work package, the asbestos floor tile surfaces will be protected during demolition and managed appropriately. The recent RLC/PDS asbestos laboratory analysis data and sample location maps are contained in Attachment D, *Chemical Data Summaries and Sample Maps*.

4.2 Beryllium

Based on the HSAR, Interview Checklists, and the Known Beryllium Area list, there was not adequate historical or process knowledge to conclude that beryllium was not present in Building 440. Consequently, random and biased beryllium sampling was conducted in accordance with PRO-536-BCPR, Beryllium Characterization Procedure. Random and biased beryllium sample locations corresponded with the most probable areas of dust accumulation (including beryllium dust), assuming airborne deposition. Random beryllium sample locations were computer generated.

Rev. i.

The only area posted in Building 440 was the C-Cell in Room 123A. All RLC/PDS beryllium laboratory results from Building 440 Westside, including Room 123A C-Cell, were less than the investigative limit of $0.1 \mu\text{g}/100\text{cm}^2$. RLC/PDS beryllium laboratory sample data and location maps are contained in Attachment D, *Chemical Data Summaries and Sample Maps*.

4.3 RCRA/CERCLA Constituents [including Metals, Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs)]

The Closure Description Document (CDD) for RCRA unit 440.1 in Building 440 (05-RF-00149) was submitted to CDPHE on March 3, 2005 and approved by CDPHE on March 29, 2005. Rooms 105, 106, 107, 107A, 112, 112, 113, 114, 120, 123 and 123B are in the Westside of Building 440 and have undergone RCRA closure as defined in the CDD prior to building demolition (see Closure Summary Report, 05-RF-00513, submitted 5/24/05). Therefore, no additional RCRA/CERCLA sampling and analysis was conducted or required as part of this RLC/PDS.

Rev. i.

According to the HSA, during production days Building 440 Rooms 113 and 123 contained industrial-sized paint booths. Although the paint booths do exist in these rooms, it could not be confirmed if the paint booths were ever used for painting. The paint booths do not have any painted surveys inside them, all inside surfaces are bare stainless steel. Therefore, there are no issues with paint buildup and resulting higher levels of PCBs, lead, chrome, or other hazardous constituents.

Sampling for lead in paint in Building 440 Westside was not performed. Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based paint Debris Disposal*, states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) waste, and additional analysis for characteristics of hazardous waste derived from LBP is not a requirement for disposal. There were no high contamination areas in Building 440 Westside.

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4.4 Polychlorinated Biphenyls (PCBs)

Based on the HSAR for the Building 440 Westside, interviews, facility walk-downs and a review of historical WSRIC processes, the facility did not have a history of PCB use or storage. The facility may have contained PCB fluorescent light ballast, however, all PCB ballast have been removed from the facility. Consequently, PCB sampling and analysis was not performed as part of this RLC/PDS and will not impact decontamination and decommissioning activities. Based on the age of the Building 440 Westside (constructed before 1980), it is assumed that painted surfaces contain PCBs, therefore all painted surfaces will be managed as PCB Bulk Product Waste.

5 PHYSICAL HAZARDS

Physical hazards associated with the Building 440 Westside consist of those common to standard industrial environments, and include hazards associated with energized systems, utilities, and trips and falls. There are no other unique hazards associated with the facility. The facility has been relatively well maintained and is in good physical condition, therefore, does not present hazards associated with building deterioration. However, care should be taken as Building 440 Westside is located near the following IHSSs, PACs, or UBCs:

- 400-806, *Catalyst Spill, Building 440*, NFA approved 1992
- 400-157.2, *Radioactive Site South Area*, Active

Physical hazards are controlled per the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of the Building 440 Westside, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments C and D) were verified and validated relative to DOE quality requirements, applicable EPA guidance, and original project DQOs.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- ◆ the *number* of samples and surveys;
- ◆ the *types* of samples and surveys;
- ◆ the sampling/survey process as implemented "in the field"; and
- ◆ the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are provided in Attachment E.

7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The demolition and disposal of Building 440 Westside will generate sanitary- PCB Bulk Product Waste and LLW (i.e., a portion of Room 123A floor and Room 122 HEPA plenum), as appropriate. Estimated waste volumes are presented below. PCB ballast and hazardous waste items have been removed and managed pursuant to Site PCB and waste management procedures.

WASTE TYPES AND VOLUME ESTIMATES							
Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
Building 440 Westside	34,000 – sanitary 200 – LLW	0	12,000 – sanitary 250 – LLW plenum	4,000	800	300 – Cat 1 non- friable floor tile	None

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Rev. 1.

Based on radiologically contaminated equipment (i.e., the C-Cell, Repack glovebox, and glovebox ventilation system) that was once located in the Westside of the facility) and the contaminated floor in Room 123A, Building 440 Westside is classified as a RFCA Type 2 facility pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999).

Rev. 1.

Results indicate that no beryllium contamination exists in excess of the PDSP unrestricted release limits in the Building 440 Westside. Prior to the completion of the RLC/PDS, all necessary friable and non-friable asbestos abatement and satisfactory clearance sampling was conducted per CDPHE, Regulation No. 8, Part B, *Emission Standards for Asbestos*. There is approximately 300 square feet of Category 1 non-friable asbestos floor tile that will remain in the facility during demolition. Per the demolition work package, the asbestos floor tile surfaces will be protected during demolition and managed appropriately. Since the building was built prior to 1980, painted surfaces will be managed as PCB Bulk Product Waste. PCB ballast and hazardous waste items have been removed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations.

Rev. 1.

Radiological fixed transuranic alpha contamination exists on the floor in Room 123A up to 6,374.7 dpm/100cm². The contaminated area of the floor will be protected prior to demolition, and removed and managed as low-level waste (LLW) during slab removal. Additionally, the internally contaminated Building 440 HEPA Exhaust Plenum is still remaining inside Room 122. This plenum has been sealed closed and will be protected prior demolition, and removed and managed during demolition as LLW. All other areas within Building 440 are less than the radiological PDSP unrestricted release limits.

Rev. 1.

Room 114 was a railcar bay. In the early 1990's, the railcar tracks in Room 114 were covered with concrete; thus the original floor and railcar tracks were inaccessible for characterization during the RLC/PDS effort. Therefore, during demolition of the concrete and slab in Room 114, these inaccessible areas (i.e., the original slab and railcar tracks) shall be further characterized prior to waste disposal determination. Additionally, during demolition, further characterization prior to waste disposal determination needs to take place for the floor areas under the two industrial-sized paint booths in Room 113 and 123, and the floor underneath the Room 122 HEPA Exhaust Plenum.

The RLC/PDS for Building 440 Westside was performed in accordance with the DDCP and PDSP, all PDSP DQOs were met, and all data satisfied the RLCP/PDSP DQA criteria. Building 440 Westside can be demolished and the waste managed as sanitary-PCB Bulk Product Waste and LLW (i.e., a portion of Room 123A floor and Room 122 HEPA plenum), as appropriate. Environmental media beneath and surrounding the facility will be addressed at a future date in accordance with the Soil Disturbance Permit process and in compliance with RFCA. To ensure Building 440 Westside remains free of further contamination and that RLC/PDS data remain valid, isolation controls have been established and the facility posted accordingly.

9 REFERENCES

- DOE/RFFO, CDPHE, EPA, 1996. Rocky Flats Cleanup Agreement (RFCA), July 19, 1996.
- DOE Order 5400.5, "Radiation Protection of the Public and the Environment."
- DOE Order 414.1A, "Quality Assurance."
- EPA, 1994. "The Data Quality Objective Process," EPA QA/G-4.
- K-H, 1999. Decommissioning Program Plan, June 21, 1999.
- MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program*, Rev. 1, November 1, 2001.
- MAN-076-FDPM, *Facility Disposition Program Manual*, Rev. 3, January 1, 2002.
- MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol*, Rev. 4, July 15, 2002.
- MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev. 1, July 15, 2002.
- MARSSIM - Multi-Agency Radiation Survey and Site Investigation Manual (NUREG-1575, EPA 402-R-97-016).
- PRO-475-RSP-16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure*, Rev. 1, May 22, 2001.
- PRO-476-RSP-16.02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Facilities*, Rev. 1, May 22, 2001.
- PRO-477-RSP-16.03, *Radiological Samples of Building Media*, Rev. 1, May 22, 2001.
- PRO-478-RSP-16.04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev. 1, May 22, 2001.
- PRO-479-RSP-16.05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev. 1, May 22, 2001.
- PRO-563-ACPR, Asbestos Characterization Procedure, Revision 0, August 24, 1999.
- PRO-536-BCPR, Beryllium Characterization Procedure, Revision 0, August 24, 1999.
- RFETS, Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition.
- RFETS, Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal.
- RFETS, RFCA RSOP for Recycling Concrete, September 28, 1999.
- RFETS, Historical Site Assessment Report for Area 5-Group 9, Rev. 1, dated April 2003.

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ATTACHMENT A

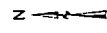
Facility Location Map

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Rocky Flats Environmental Technology Site
Building 440 East
Location Map

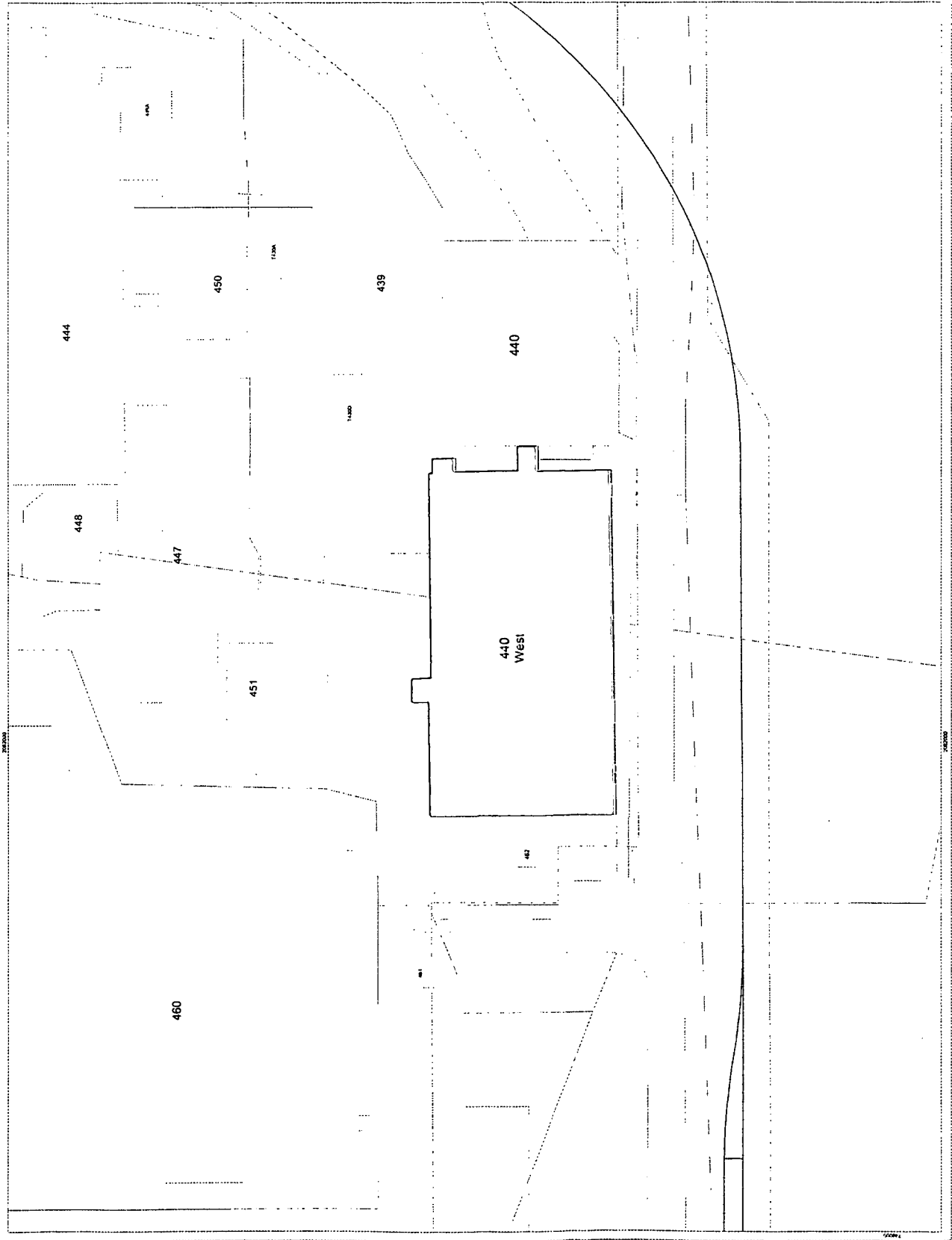
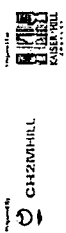
Standard Map Features

- Remaining Facility
- Demolished Facility
- Railroad removed
- Railroad remaining
- Demolished Road
- Paved Roads
- Dirt roads
- Fences removed
- Fences remaining
- Lakes
- Streams
- 440 West



Scale = 1:401
1 inch equals 33 feet
State Plane Coordinate Projection
Colorado Central Zone (3418)
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site
GIS Data (201) 964-7707



\\Bldg_Chart\proj\rocky\0305\ASG\440\440\440.mxd

ATTACHMENT B

Historical Site Assessment Report

**D&D RISS Facility Characterization
Historical Site Assessment Report
April, 2003 Rev. 1**

Facility ID: (AREA 5 GROUP 9) Buildings 440 and 664

Anticipated Facility Type (1, 2, or 3): Building 440 is an anticipated Type 2 facility, and 664 is an anticipated Type 1 Facility.

This facility-specific Historical Site Assessment (HSA) has been performed in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Physical Description

Building 440

Building 440 is an approximately 59,000 square foot structure built in 1971. The structure is a pre-fabricated building built on a concrete foundation. The exterior walls are constructed of insulated metal panels attached to a steel frame. The roof is constructed of metal decking with built-up roofing.

Building 440 has the following utilities: electrical, plant water, plant sanitary, plant steam, and fire protection is provided by an overhead sprinkler system and wall mounted fire extinguishers.

Building 664

Building 664 is an approximately 18,700 square foot building constructed in 1972. The structure is a pre-fabricated metal building built on a concrete foundation. The exterior walls are constructed of insulated metal panels attached to a steel frame. The roof is constructed of metal decking with built-up roofing.

Building 664 has the following utilities: electrical, plant water, plant sanitary, plant steam, and fire protection is provided by an overhead sprinkler system and wall mounted fire extinguishers.

**D&D RISS Facility Characterization
Historical Site Assessment Report
April, 2003 Rev. 1**

Historical Operations

Building 440

Building 440 was originally constructed as a production control, shipping of products for final assembly and shipping wastes for disposal. Special nuclear materials and depleted uranium were staged and shipped out of this building by truck and railcar. In the early 1970s, Building 440 was also used to modify and repair railroad cars, semi-truck trailers, and escort vehicles to meet specific DOE requirements for transport of special nuclear materials and radioactive wastes. Vehicle modification work in Building 440 continued until 1994. Most of the original equipment associated with this activity has been shipped to other DOE plants. Production processes in Building 440 included various welding, painting, machining, pipe fitting, metal working, and electrical work used to modify transports. Modification efforts focused on developing entry deterrents. Paint booths were used to coat fabricated, non-nuclear components and the transports. The gantry and 5-ton cranes were used to move materials associated with the transport modification effort.

Building 440 was expanded three times to include a railcar bay, a high bay, paint booths, locker rooms in support of transport modification efforts and a 20,000 Square Foot Storage Area. Room 114 was a railcar bay. The railroad tracks, which were covered with poured concrete in the early 1990 is approximately 5 feet lower than the main building floor. Gantry cranes present in Rooms 105 and 114 were used to move equipment and materials used in the modification of safe secure transports. Industrial-sized paint booths were located in Rooms 113 and 123.

Currently Building 440 is used as a permitted, LLW, TRU, mixed waste storage, shipping, WIPP characterization, and waste repackaging facility. Building 440 installed 2 permacons and a glovebox with associated HEPA filtration systems, in the late 1999s and early 2000s, used to characterize and repackage non-conforming waste packages. There is no known building contamination (outside of the 2 permacons, glove box and associated ventilation systems). See the Building 440 WSRIC for a more detailed explanation of these activities.

Building 664

Building 664 is a waste storage, waste staging, and waste shipping facility and is a permitted LLW, mixed, and TRU wastes storage facility. All radioactive wastes received in Building 664 have already been packaged for final disposal in either 55-gallon metal drums or in metal or wooden crates. The contents of these packages are examined by an RTR unit to determine if the waste meets internal packaging requirements and off-site waste acceptance criteria. The packaged wastes is then labeled and marked before being shipped to their final destination. The building once housed fiberglass operations during the late 1980s and early 1990s, to seal LLW waste containers prior to shipping. The fiberglass operation was located on the west side of the facility and has been removed.

**D&D RISS Facility Characterization
Historical Site Assessment Report
April, 2003 Rev. 1**

Current Operational Status

Buildings 440 and 664 are operational waste storage and shipping facilities.

Contaminants of Concern

Asbestos

Describe any potential, likely, or known sources of Asbestos:

Building 664 and 440 are posted as potentially containing asbestos. The Industrial Hygiene Group (IH) has collected some asbestos data on the Building 440. Contact IH for a copy of this information.

Beryllium (Be)

Describe any potential, likely, or known Be production or storage locations:

None of the facilities addressed in this HSA are on the List of known Be Areas.

Summarize any recent Be sampling results:

There have been no recent Be samples collected on any of these facilities.

Lead

Describe any potential, likely, or known sources of Lead (e.g., paint, shielding, etc.):

Based on the age of some of the facilities addressed in this HSA, lead in paint may be a concern. No processes containing lead were conducted in these facilities.

RCRA/CERCLA Constituents

Describe any potential, likely, or known sources of RCRA/CERCLA constituents (e.g., chemical storage, waste storage, and processes):

Building 440 and 664 are permitted LLW, TRU, and mixed waste storage areas. See the Historical operations section above for a detailed listing of the operations which occurred in the facilities addressed in this HSA. Building 440 has RCRA Unit 440-1, which covers Container Storage, Repackaging, and Staging. This RCRA unit will be closed in accordance with the " The RCRA Part B Permit No. CO-97-05-30-01, Part X (6/30/97). Building 664 has RCRA Unit 20, which covers Container Storage in rooms 100, 110, and the High Bay Area. This RCRA unit will be closed in accordance with the " The RCRA Part B Permit No. CO-97-05-30-01, Part X (6/30/97).

Describe any potential, likely, or known spill locations (and sources, if any):

None of the facilities in this HSA have had any RCRA/CERCLA spills.

Describe methods in which spills were mitigated, if any:

None of the facilities in this HSA have had any RCRA/CERCLA spills.

**D&D RISS Facility Characterization
Historical Site Assessment Report
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PCBs

Describe any potential, likely, or known sources of PCBs (e.g., light ballasts, paints, equipment, etc.):

No PCB containing process where housed in any of the facilities addressed in this HSA. Based on the age of construction of some of these facilities, PCBs in paint may be a concern.

Describe any potential, likely, or known spill locations (and sources, if any):

No PCB spills occurred in any of the Facilities addressed in this HSA.

Describe methods in which spills were mitigated, if any:

No PCB spills occurred in any of the Facilities addressed in this HSA.

**D&D RISS Facility Characterization
Historical Site Assessment Report
April, 2003 Rev. 1**

Radiological Contaminants

Describe any potential, likely, or known radiological production or storage locations:

Building 440 is a permitted LWW and TRU waste storage facility. Building 440 is also used for WIPP characterization and waste repackaging of non-conforming waste packages. Waste repackaging is performed in 2 permacons and a glove box. Any contamination associated from this activity is confined to the 2 permacons, glove box and associated HEPA ventilation system. The UBC section of the HRR states that uranium, on limited occasions, may have machined or modified in Building 440. No further evidence of this was found. Building 664 is a permitted waste staging, storage and shipping facility.

See the Historical Operations section above for a more detailed listing of the operations which occurred in the facilities addressed in this HSA.

Describe any potential, likely, or known spill locations (e.g., known leaking sealed radioactive sources, leaking waste drums, potentially contaminated drains, etc.):

An interviewee recalled that in the early day of operation of Building 440, the south dock area got contaminated with uranium during container movement operations. The contamination was cleaned up to the standards of the day using instrumentation of the day. Building 664 was a waste staging, storage and shipping facility, historically, the waste container sometime had residual contamination on there exterior. Because of this, occasional elevated reading were detected. These areas were cleaned to the standards of the day using instrumentation of the day.

Describe methods in which spills were mitigated, if any:

The contamination was cleaned up to the standards of the day using instrumentation of the day.

Describe any potential, likely, or known isotopes of concern (e.g., weapons grade plutonium, uranium isotopes, pure beta emitters, mixed fission products, etc.):

Isotopes of concern include uranium and plutonium.

Describe any potential, likely, or known external facility contamination (e.g., stack release points, unfiltered ventilation, facility's physical location to known site releases, etc.):

See section below for information on IHSSs PACs, and UBCs.

D&D RISS Facility Characterization Historical Site Assessment Report April, 2003 Rev. 1

Environmental Restoration Concerns

Describe any ER concerns that could affect facility characterization (e.g., IHSSs, PACs, UBCs):

Building 440 is associated with or located near the following IHSSs, PACs, or UBCs. See individual IHSS, PAC, or UBC report for additional information.

- 1) 400-806, "Catalyst Spill, Building 440", NFA approved 1992.
- 2) 400-157.2, "Radioactive site South Area", Active.

Building 440 is a UBC due to past machining and modification activities.

Building 664 is associated with or located near the following IHSSs, PACs, or UBCs. See individual IHSS, PAC, or UBC report for additional information.

- 1) 400 - 157.2, "Radioactive site South Area", Active.
- 2) 400 - 807, "Sandblasting Area", Active.
- 3) 600 -121.2, "Fiberglassing area west of Building 664", Active.
- 4) 600 - 161, "Radioactive Site - Building 664", Active.

Trailers T664B and T664C are not associated with any IHSSs, PACs, or UBCs.

Additional Information

Describe any additional information that may be useful during facility characterization (e.g., contaminant migration routes, waste handling operations, physical hazards, Historical Release Reports, WSRIC data, etc.):

None

References

Provide all sources of information utilized to gather data for facility history (e.g., documents, files, interviews):

Sources reviewed to complete this HSA were the RFETS Facility List, the Historical Release Report, Site Master List of RCRA Units, and the Site IHSS, PAC, and UBC databases. The WSRIC for those buildings with a WSRIC. In addition, a facility walkdown and interviews were performed.

Waste Volume Estimates and Material Types

Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
Building 440	50,000	0	18000	6000	800	TBD	N/A
Building 664	19000	0	7500	3000	2500	TBD	N/A

Further Actions

Recommend any further actions, if any (e.g., characterization, decontamination, special handling, etc.):

Begin the RLC/PDS process.

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**D&D RISS Facility Characterization
Historical Site Assessment Report
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Note:

This HSA was performed prior to SME walkdowns, and chemical and radiological characterization package preparations. SMEs should evaluate and/or verify all information during the RLC/PDS process. SMEs may need to review additional documentation and perform additional interviews. Information contained in this HSA only represents a "snapshot" in time. Subsequent data may be obtained during SME walkdowns and chemical and radiological characterization package preparations, which may conflict with this report. However, this report will not be amended, and the newer data will take precedence over the data in this report. Newer Data will appear in the RLCR/PDSR.

Prepared By:

Duane Parsons

Name



Signature

April 2003

Date

ATTACHMENT C

Radiological Data Summaries And Survey Maps

PRE-DEMOLITION SURVEY FOR B440

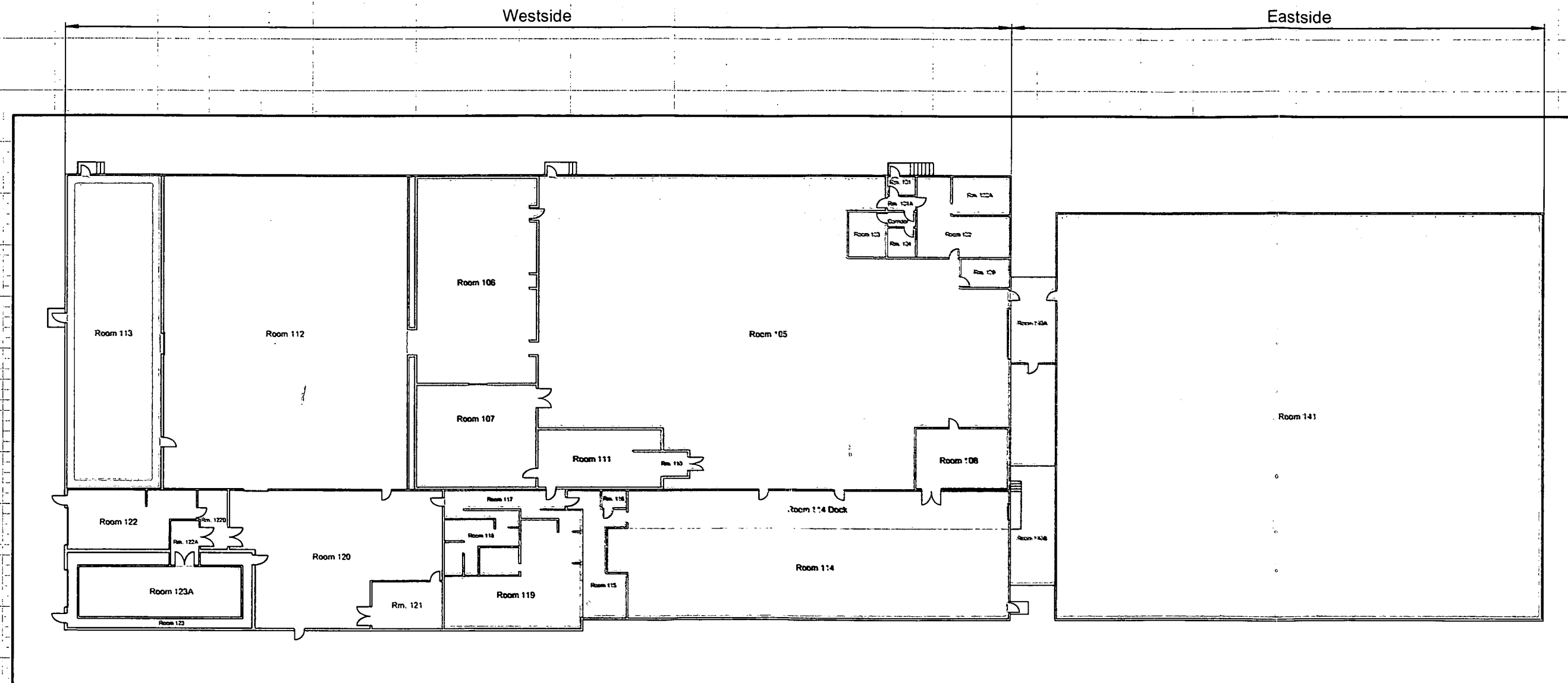
Survey Area: 5 Survey Units: 440501 thru 440506 Classification: 1 & 2
 Building: 440
 Survey Unit Description: 440 Key Plan
 Total Area: 22,355 sq. m.

Floor Area: 6,404 sq. m.

PAGE 1 OF 1

B440 Key Plan

For SME Reference ONLY
 Not For Sample Points

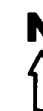


SURVEY UNIT KEY

- | | |
|--------|---------------------------------------|
| 440501 | 440504 (Rm 123A Interior) |
| 440502 | 440505 (Rm 113 Lower Walls & Floor) |
| 440503 | 440506 (Rm 113 Upper Walls & Ceiling) |

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For SME Reference ONLY
 Not For Sample Points



1 inch = 36 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy Rocky Flats Environmental Technology Site	
Prepared by: GIS Dept. 303-968-7707	Prepared for:
CH2M HILL Communications Group	KAISER HILL COMPANY
MAP ID: 03-0305/B440-KP	March 18, 2003

Survey Area: 5	Survey Unit: 440502	Building: 440
Description: Building 440 Westside Interior, Rooms 101, 101A, 102, 102A, 103, 111, and 114 - 119, all surfaces		

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Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 44	Nbr Biased Measurements Required: 10	Nbr QC Required: 3
Nbr Random Measurements Performed: 46	Nbr Biased Measurements Performed: 10	Nbr QC Performed: 3

Alpha	
Maximum:	62.1 dpm/100cm ²
Minimum:	-9.8 dpm/100cm ²
Mean:	8.3 dpm/100cm ²
Standard Deviation:	11.5
QC Maximum:	18.9 dpm/100cm ²
QC Minimum:	11.6 dpm/100cm ²
QC Mean:	16.4 dpm/100cm ²
Transuranic DCGL _W :	100.0 dpm/100cm ²
Transuranic DCGL _{EMC} :	300.0 dpm/100cm ²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 44	Nbr Biased Measurements Required: 10
Nbr Random Measurements Performed: 46	Nbr Biased Measurements Performed: 10

Alpha	
Maximum:	6.1 dpm/100cm ²
Minimum:	-1.8 dpm/100cm ²
Mean:	0.5 dpm/100cm ²
Standard Deviation:	1.5
Transuranic DCGL _W :	20.0 dpm/100cm ²

Media Sample Results

Nbr Random Required: 10	Nbr Biased Required: 0
Nbr Random Collected: 10	Nbr Biased Collected: 0

Uranium	
Maximum:	5 dpm/100cm ²
Minimum:	0 dpm/100cm ²
Mean:	1 dpm/100cm ²
Standard Deviation:	3
Uranium DCGL _W :	5,000 dpm/100cm ²
Uranium DCGL _{EMC} :	15,000 dpm/100cm ²

Transuranic	
Maximum:	0 dpm/100cm ²
Minimum:	0 dpm/100cm ²
Mean:	0 dpm/100cm ²
Standard Deviation:	0
Transuranic DCGL _W :	100 dpm/100cm ²
Transuranic DCGL _{EMC} :	300 dpm/100cm ²

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

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Survey Area: 5	Survey Unit: 440502	Building: 440
Description: Building 440 Westside Interior, Rooms 101, 101A, 102, 102A, 103 - 111, and 114 - 119, all surfaces		

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Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	515538	04/27/05	Electra	1379	DP-6	05/09/05	0.222	NA	48.0	NA	T/S
2	511466	04/27/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
3	511466	05/09/05	Electra	659	DP-8	08/28/05	0.167	NA	300.0	NA	S
4	513922	05/10/05	Electra	3370	DP-6	07/27/05	0.213	NA	48.0	NA	T/S
5	511466	05/10/05	Electra	1261	DP-8	07/27/05	0.171	NA	300.0	NA	S
6	515538	05/10/05	Electra	659	DP-8	08/28/05	0.167	NA	300.0	NA	S
7	515538	05/11/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
8	513922	05/12/05	Electra	2352	DP-6	06/09/05	0.221	NA	48.0	NA	T/S
9	511466	05/12/05	Electra	3370	DP-6	07/27/05	0.213	NA	48.0	NA	T/S
10	515538	05/12/05	Electra	2352	DP-6	06/09/05	0.221	NA	48.0	NA	T/Q/S
11	515538	05/12/05	Electra	676	AP-6	08/01/05	0.183	NA	300.0	NA	S
12	511466	05/12/05	Electra	281	AP-6	09/17/05	0.180	NA	300.0	NA	S
13	515538	05/12/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
14	515538	05/12/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5	Survey Unit: 440502	Building: 440
Description: Building 440 Westside Interior, Rooms 101, 101A, 102, 102A, 103 - 111, and 114 - 119, all surfaces		

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Comments Sheet

General N/A
Comments:

TSA For instruments that were used for both TSAs and scans (T/S) on the Instrument Data Sheet, The TSA A-Priori MDA is 48.0 and the scan A-Priori MDA is 300.0.
Comments:

RSA N/A
Comments:

Media Media samples were collected from floor surfaces only. The other survey unit surfaces were unpainted or factory original paint.
Comments:

Survey Area: 5	Survey Unit: 440502	Building: 440
Description: Building 440 Westside Interior, Rooms 101, 101A, 102, 102A, 103 - 111, and 114 - 119, all surfaces		

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Random Removable Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440502PRP-N001	7	1.5	N/A	N/A	N/A	N/A
440502PRP-N002	14	-1.8	N/A	N/A	N/A	N/A
440502PRP-N003	13	0.0	N/A	N/A	N/A	N/A
440502PRP-N004	14	1.2	N/A	N/A	N/A	N/A
440502PRP-N005	13	1.5	N/A	N/A	N/A	N/A
440502PRP-N006	2	-0.3	N/A	2	1.2	N/A
440502PRP-N007	2	-0.3	N/A	2	1.2	N/A
440502PRP-N008	2	1.2	N/A	2	-0.3	N/A
440502PRP-N009	14	1.2	N/A	N/A	N/A	N/A
440502PRP-N010	2	1.2	N/A	2	-0.3	N/A
440502PRP-N011	2	-0.3	N/A	2	2.7	N/A
440502PRP-N012	13	0.0	N/A	N/A	N/A	N/A
440502PRP-N013	7	0.0	N/A	N/A	N/A	N/A
440502PRP-N014	13	1.5	N/A	N/A	N/A	N/A
440502PRP-N015	14	-0.3	N/A	N/A	N/A	N/A
440502PRP-N016	13	0.0	N/A	N/A	N/A	N/A
440502PRP-N017	14	-0.3	N/A	N/A	N/A	N/A
440502PRP-N018	13	0.0	N/A	N/A	N/A	N/A
440502PRP-N019	2	-0.3	N/A	2	1.2	N/A
440502PRP-N020	2	-0.3	N/A	2	1.2	N/A
440502PRP-N021	2	-0.3	N/A	2	2.7	N/A
440502PRP-N022	2	-0.3	N/A	2	-0.3	N/A
440502PRP-N023	14	-1.8	N/A	N/A	N/A	N/A
440502PRP-N024	14	1.2	N/A	N/A	N/A	N/A
440502PRP-N025	7	0.0	N/A	N/A	N/A	N/A
440502PRP-N026	13	1.5	N/A	N/A	N/A	N/A
440502PRP-N027	13	0.0	N/A	N/A	N/A	N/A
440502PRP-N028	7	1.5	N/A	N/A	N/A	N/A
440502PRP-N029	7	0.0	N/A	N/A	N/A	N/A

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Survey Area: 5

Survey Unit: 440502

Building: 440

Description: Building 440 Westside Interior, Rooms 101, 101A, 102, 102A, 103 - 111, and 114 - 119, all surfaces

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Random Removable Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440502PRP-N030	14	-1.8	N/A	N/A	N/A	N/A
440502PRP-N031	13	0.0	N/A	N/A	N/A	N/A
440502PRP-N032	14	-0.3	N/A	N/A	N/A	N/A
440502PRP-N033	13	0.0	N/A	N/A	N/A	N/A
440502PRP-N034	14	-1.8	N/A	N/A	N/A	N/A
440502PRP-N035	13	3.0	N/A	N/A	N/A	N/A
440502PRP-N036	7	0.0	N/A	N/A	N/A	N/A
440502PRP-N037	7	6.1	N/A	N/A	N/A	N/A
440502PRP-N038	7	1.5	N/A	N/A	N/A	N/A
440502PRP-N039	7	0.0	N/A	N/A	N/A	N/A
440502PRP-N040	7	1.5	N/A	N/A	N/A	N/A
440502PRP-N041	7	3.0	N/A	N/A	N/A	N/A
440502PRP-N042	7	0.0	N/A	N/A	N/A	N/A
440502PRP-N043	2	-0.3	N/A	2	-0.3	N/A
440502PRP-N044	13	1.5	N/A	N/A	N/A	N/A
440502PRP-N045	7	3.0	N/A	N/A	N/A	N/A
440502PRP-N046	7	0.0	N/A	N/A	N/A	N/A

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Survey Area: 5	Survey Unit: 440502	Building: 440
Description: Building 440 Westside Interior, Rooms 101, 101A, 102, 102A, 103 - 111, and 114 - 119, all surfaces		

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Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440502PBP-N047	13	0.0	N/A	N/A
440502PBP-N048	14	-1.8	N/A	N/A
440502PBP-N049	13	1.5	N/A	N/A
440502PBP-N050	14	-1.8	N/A	N/A
440502PBP-N051	13	0.0	N/A	N/A
440502PBP-N052	14	-0.3	N/A	N/A
440502PBP-N053	13	0.0	N/A	N/A
440502PBP-N054	14	-0.3	N/A	N/A
440502PBP-N055	13	4.5	N/A	N/A
440502PBP-N056	14	-1.8	N/A	N/A



Survey Area: 5	Survey Unit: 440502	Building: 440
Description: Building 440 Westside Interior, Rooms 101, 101A, 102, 102A, 103 - 111, and 114 - 119, all surfaces		

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Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440502PRP-N001	4	-8.3	N/A	N/A	N/A	N/A
440502PRP-N002	9	-0.3	N/A	N/A	N/A	N/A
440502PRP-N003	9	-0.3	N/A	N/A	N/A	N/A
440502PRP-N004	9	2.5	N/A	N/A	N/A	N/A
440502PRP-N005	9	15.2	N/A	N/A	N/A	N/A
440502PRP-N006	1	14.0	N/A	1	10.4	N/A
440502PRP-N007	1	8.2	N/A	1	19.4	N/A
440502PRP-N008	1	-0.8	N/A	1	1.4	N/A
440502PRP-N009	8	1.9	N/A	N/A	N/A	N/A
440502PRP-N010	1	5.0	N/A	1	10.4	N/A
440502PRP-N011	1	14.0	N/A	1	19.4	N/A
440502PRP-N012	8	5.1	N/A	N/A	N/A	N/A
440502PRP-N013	4	15.2	N/A	N/A	N/A	N/A
440502PRP-N014	9	4.4	N/A	N/A	N/A	N/A
440502PRP-N015	9	5.8	N/A	N/A	N/A	N/A
440502PRP-N016	9	-0.3	N/A	N/A	N/A	N/A
440502PRP-N017	9	11.9	N/A	N/A	N/A	N/A
440502PRP-N018	10	-4.0	N/A	N/A	N/A	N/A
440502PRP-N019	1	10.9	N/A	1	31.1	N/A
440502PRP-N020	1	19.9	N/A	1	19.4	N/A
440502PRP-N021	1	17.2	N/A	1	16.2	N/A
440502PRP-N022	1	-7.1	N/A	1	4.1	N/A
440502PRP-N023	8	-4.0	N/A	N/A	N/A	N/A
440502PRP-N024	8	1.9	N/A	N/A	N/A	N/A
440502PRP-N025	4	5.8	N/A	N/A	N/A	N/A
440502PRP-N026	10	29.1	N/A	N/A	N/A	N/A
440502PRP-N027	10	1.9	N/A	N/A	N/A	N/A

Survey Area: 5	Survey Unit: 440502	Building: 440
Description: Building 440 Westside Interior, Rooms 101, 101A, 102, 102A, 103, 111, and 114 - 119, all surfaces		

rev.
1

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440502PRP-N028	4	-0.3	N/A	N/A	N/A	N/A
440502PRP-N029	4	-3.6	N/A	N/A	N/A	N/A
440502PRP-N030	10	14.1	N/A	N/A	N/A	N/A
440502PRP-N031	9	9.1	N/A	N/A	N/A	N/A
440502PRP-N032	9	2.5	N/A	N/A	N/A	N/A
440502PRP-N033	9	9.1	N/A	N/A	N/A	N/A
440502PRP-N034	9	11.9	N/A	N/A	N/A	N/A
440502PRP-N035	8	-9.8	N/A	N/A	N/A	N/A
440502PRP-N036	4	21.3	N/A	N/A	N/A	N/A
440502QRP-N036	10	11.6	N/A	N/A	N/A	N/A
440502PRP-N037	4	18.5	N/A	N/A	N/A	N/A
440502PRP-N038	4	62.1	N/A	N/A	N/A	N/A
440502QRP-N038	10	18.9	N/A	N/A	N/A	N/A
440502PRP-N039	4	11.9	N/A	N/A	N/A	N/A
440502PRP-N040	4	2.5	N/A	N/A	N/A	N/A
440502PRP-N041	4	-0.3	N/A	N/A	N/A	N/A
440502PRP-N042	4	27.8	N/A	N/A	N/A	N/A
440502QRP-N042	10	18.9	N/A	N/A	N/A	N/A
440502PRP-N043	1	-7.1	N/A	1	16.2	N/A
440502PRP-N044	9	18.5	N/A	N/A	N/A	N/A
440502PRP-N045	4	18.5	N/A	N/A	N/A	N/A
440502PRP-N046	4	2.5	N/A	N/A	N/A	N/A

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Survey Area: 5	Survey Unit: 440502	Building: 440
Description: Building 440 Westside Interior, Rooms 101, 101A, 102, 102A, 103, 111, and 114- 119, all surfaces		

rev.
1

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440502PBP-N047	8	3.8	N/A	N/A
440502PBP-N048	8	6.5	N/A	N/A
440502PBP-N049	8	6.5	N/A	N/A
440502PBP-N050	8	3.8	N/A	N/A
440502PBP-N051	9	13.7	N/A	N/A
440502PBP-N052	8	-2.5	N/A	N/A
440502PBP-N053	8	-5.2	N/A	N/A
440502PBP-N054	8	3.8	N/A	N/A
440502PBP-N055	8	0.6	N/A	N/A
440502PBP-N056	8	-2.5	N/A	N/A

36

Survey Area: 5	Survey Unit: 440502	Building: 440
Description: Building 440 Westside Interior, Rooms 101, 101A, 102, 102A, 103 - 111, and 114 - 119, all surfaces		

rev.
1

Media Samples Data Sheet

Site Sample ID / Nbr Description	Nuclide	Sample (pCi/g)	Sample MDA (pCi/g)	Weight (g)	Surface Area (in ²)	Sample Nuclide (dpm/100cm ²)	Sample Nuclide MDA (dpm/100cm ²)	Sample Total (dpm/100cm ²)
05Z1190-016.001 16 8, 10, 11	U234	0.0000	66.2000	20.70	26.3	0	1,793	Uranium 0 Transuranic 0
	U235	0.0000	0.3550			0	10	
	U238	0.0000	1.0900			0	30	
	Pu239/240	0.0000	1.3375			0	36	
	Am241	0.0000	0.1930			0	5	
05Z1190-017.001 17 6, 19, 21	U234	0.0000	74.8000	17.80	26.3	0	1,742	Uranium 0 Transuranic 0
	U235	0.0000	0.3120			0	7	
	U238	0.0000	1.1700			0	27	
	Pu239/240	0.0000	1.5454			0	36	
	Am241	0.0000	0.2230			0	5	
05Z1190-018.001 18 20, 22, 43	U234	0.0000	67.0000	24.80	26.3	0	2,174	Uranium 5 Transuranic 0
	U235	0.1490	0.1560			5	5	
	U238	0.0000	0.8570			0	28	
	Pu239/240	0.0000	1.3583			0	44	
	Am241	0.0000	0.1960			0	6	
05Z1190-019.001 19 7	U234	0.0000	73.0000	17.10	26.3	0	1,633	Uranium 0 Transuranic 0
	U235	0.0000	0.3010			0	7	
	U238	0.0000	1.8100			0	41	
	Pu239/240	0.0000	1.6008			0	36	
	Am241	0.0000	0.2310			0	5	

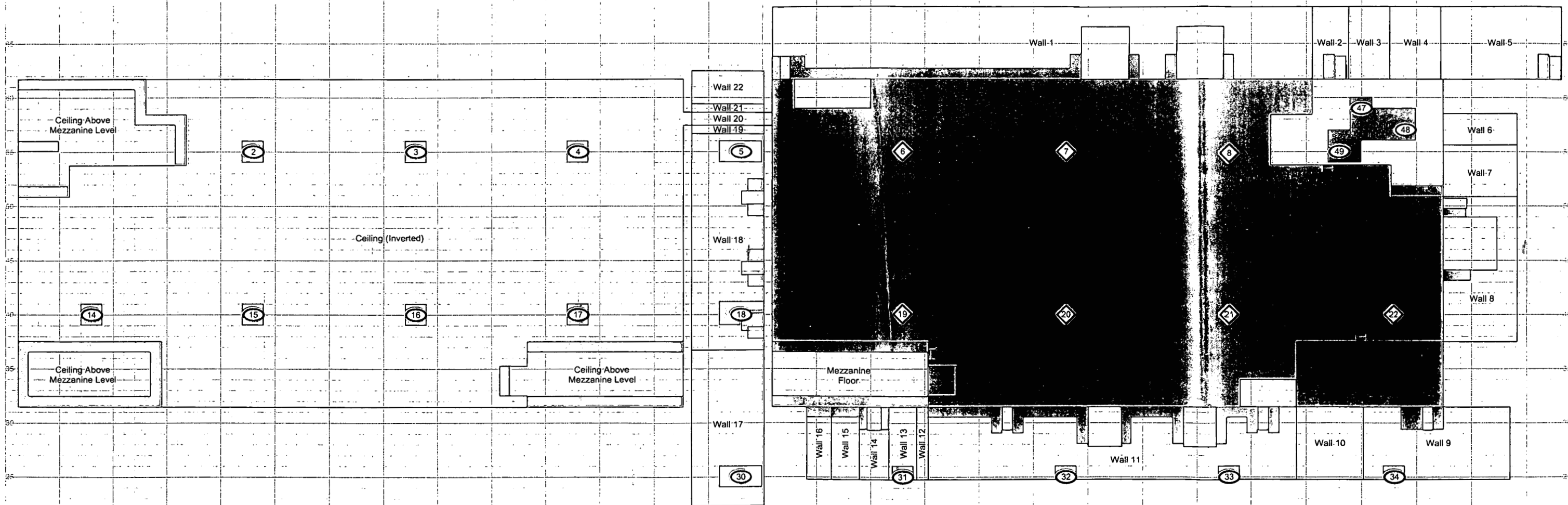
rev. 1

RLC/PDS SURVEY FOR B440

Survey Area: 5 Survey Unit: 440502 Classification: 2
Building: 440 Westside
Survey Unit Description: B440 Westside Interior, Rooms 101, 101A, 102, 102A,
103-111 and 114-119, all surfaces
Total Area: 9,843 sq. m. Floor Area: 2,887 sq. m.
Grid Spacing for Survey Points: 15m x 15m

PAGE 2 OF 8

B440 Interior Room 105

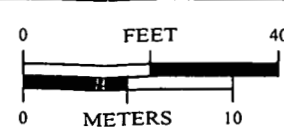


SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
Survey Instrument ID #(s) and RCT ID #(s):
1, 3-6, 8-12



1 inch = 30 feet 1 grid sq. = 1 sq. m.

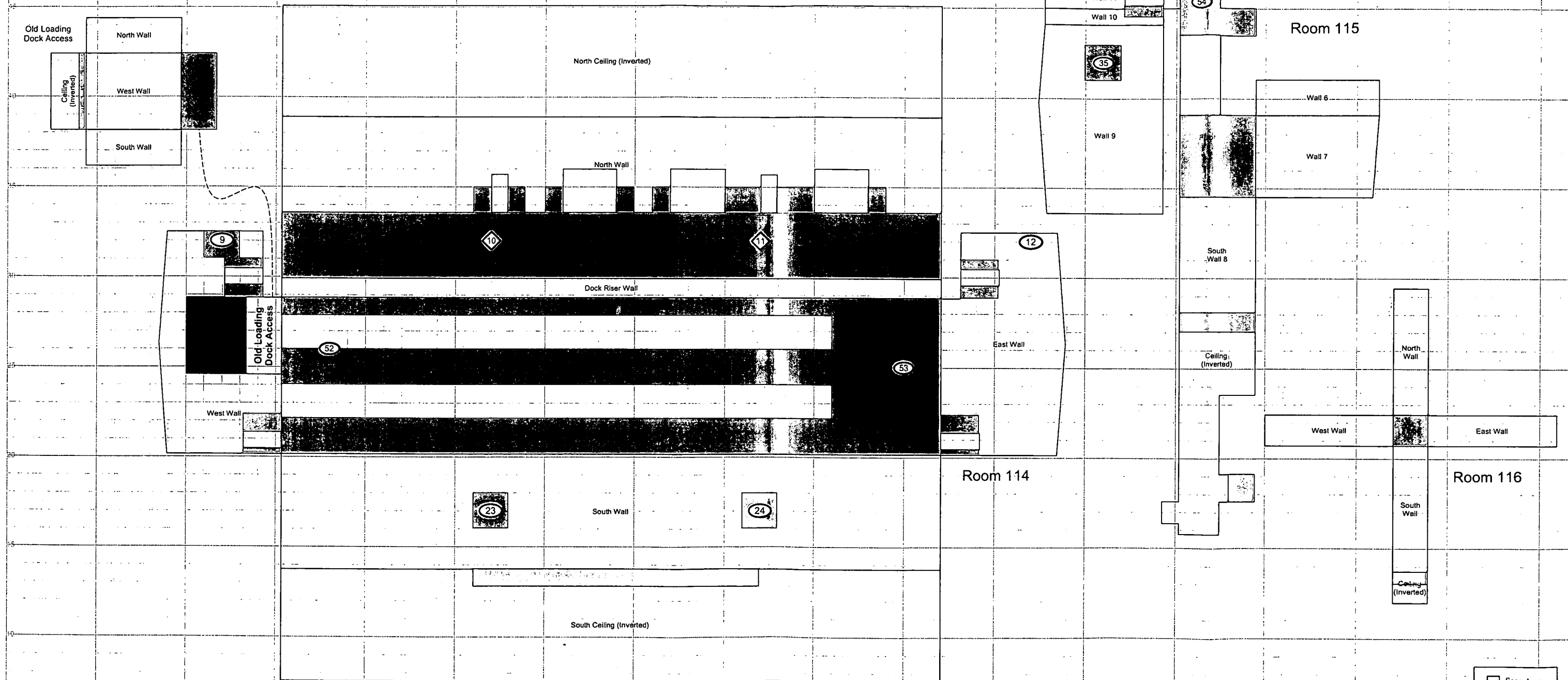
U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: GIS Dept. 303-966-7707 Prepared for:
CH2MHILL **KAISER HILL**
Communications Group COMPANY
MAP ID: 03-0305/440002_2_SC May 17, 2005

PRE-DEMOLITION SURVEY FOR B440

Survey Area: 5 Survey Unit: 440502 Classification: 2
Building: 440 Westside
Survey Unit Description: B440 Westside Interior, Rooms 101, 101A, 102, 102A,
103-111 and 114-119, all surfaces
Total Area: 9,843 sq. m. Floor Area: 2,887 sq. m.
Grid Spacing for Survey Points: 15m x 15m

PAGE 3 OF 8

B440 Interior

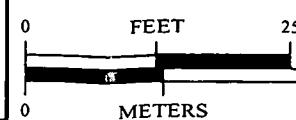


SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area Shown in Another View

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Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1, 3-6, 8-12



1 inch = 18 feet 1 grid sq. = 1 sq. m.

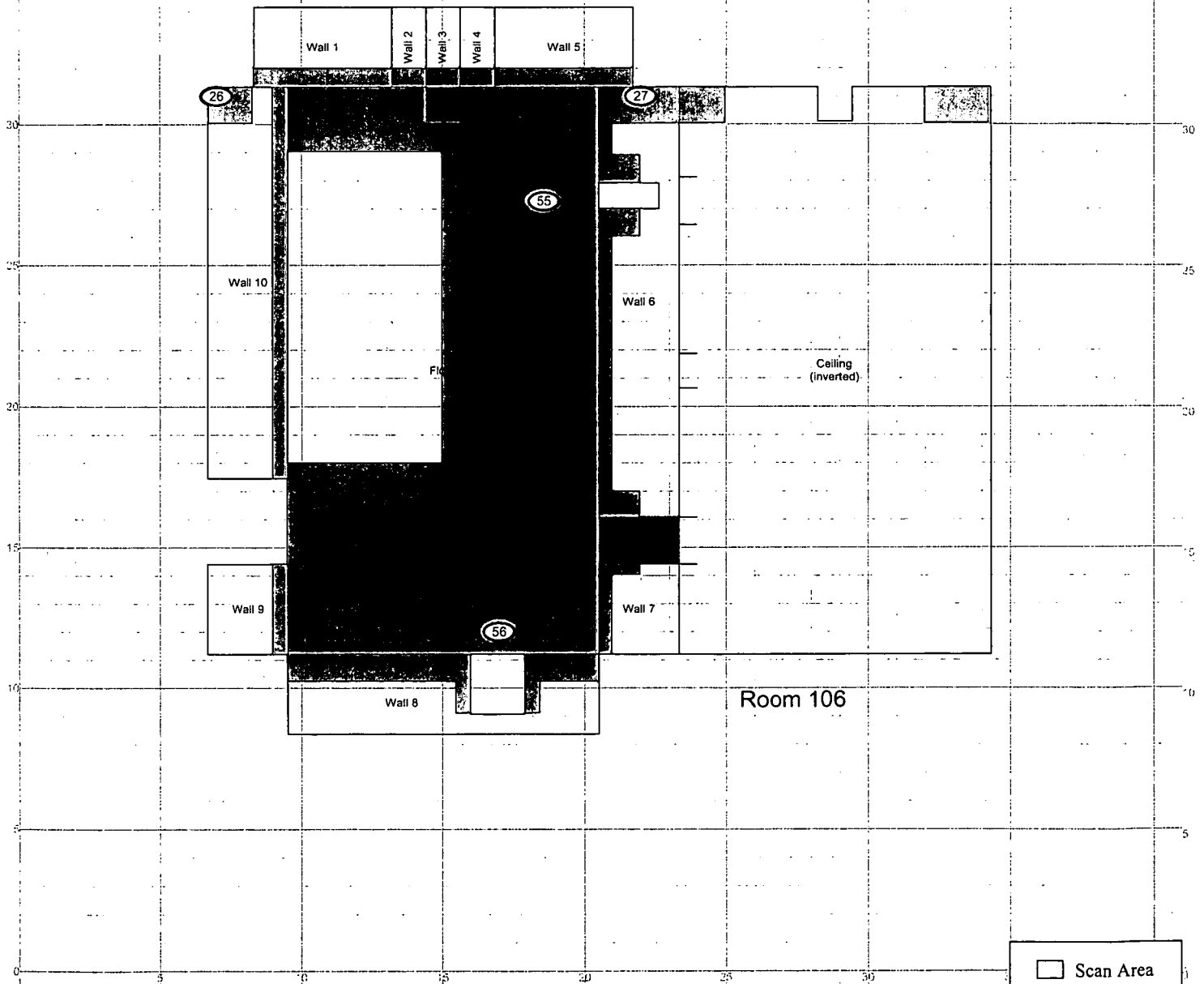
U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: GIS Dept. 303-966-7707
CH2MHILL
Communications Group
Kaiser Hill
Prepared for:
MAP ID: 03-0305/440002_3_SC
May 17, 2005

RLC/PDS SURVEY FOR B440

Survey Area: 5 Survey Unit: 440502 Classification: 2
 Building: 440 Westside
 Survey Unit Description: B440 Westside Interior, Rooms, 101, 101A, 102, 102A,
 103-111 and 114-119, all surfaces
 Total Area: 9,843 sq. m. Floor Area: 2,887 sq. m.
 Grid Spacing for Surey Points: 15m x 15m

PAGE 4 OF 8

B440 Interior



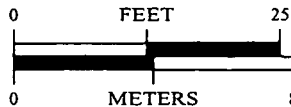
SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1, 3-6, 8-12



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID: 03-0305/440002-4_SC

May 17, 2005

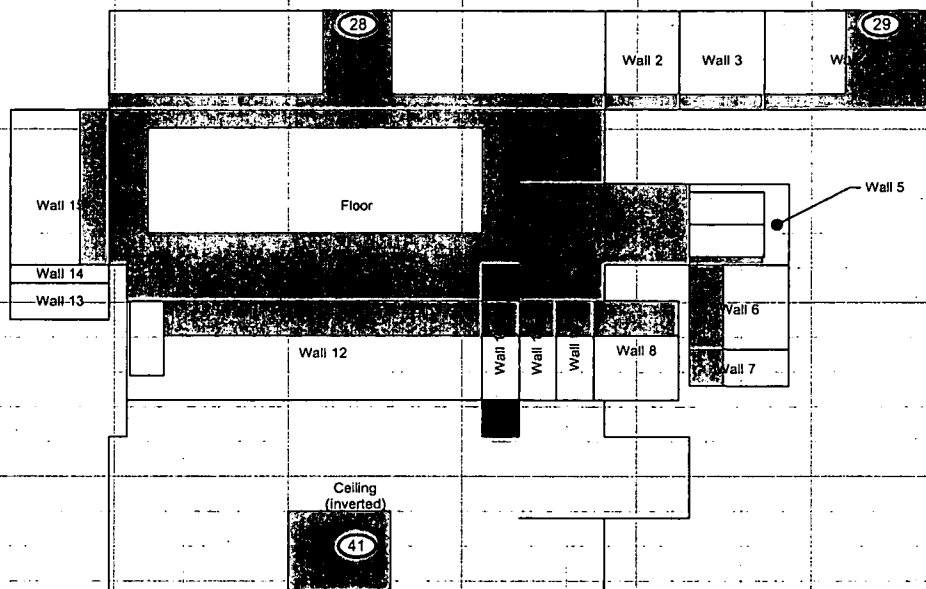
RLC/PDS SURVEY FOR B440

Survey Area: 5 Survey Unit: 440502 Classification: 2
 Building: 440 Westside
 Survey Unit Description: B440 Westside Interior, Rooms 101, 101A, 102, 102A,
 103-111 and 114-119, all surfaces
 Total Area: 9,843 sq. m. Floor Area: 2,887 sq. m.
 Grid Spacing for Survey Points: 15m x 15m

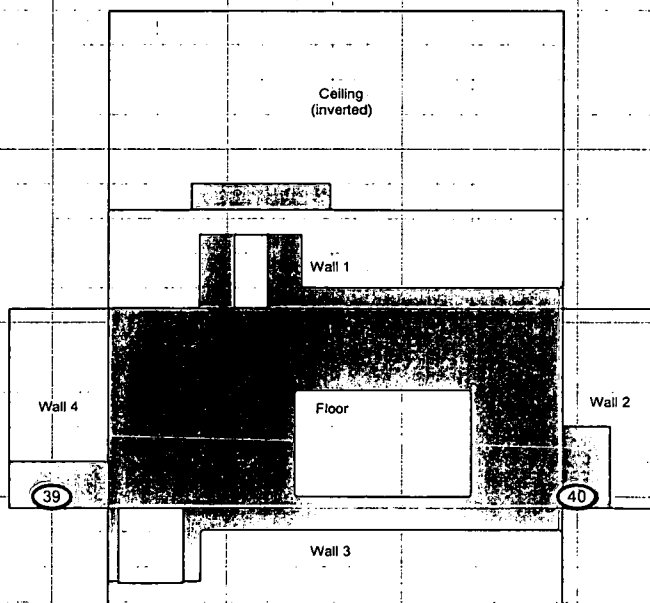
PAGE 5 OF 8

B440 Interior

Rooms 110 & 111



Room 108



Scan Area

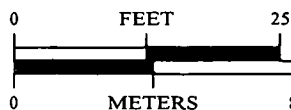
SURVEY MAP LEGEND

- ⊙ Smear & TSA Location
- ⬠ Smear, TSA & Sample Location
- Open/Inaccessible Area

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1, 3-6, 8-12



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group

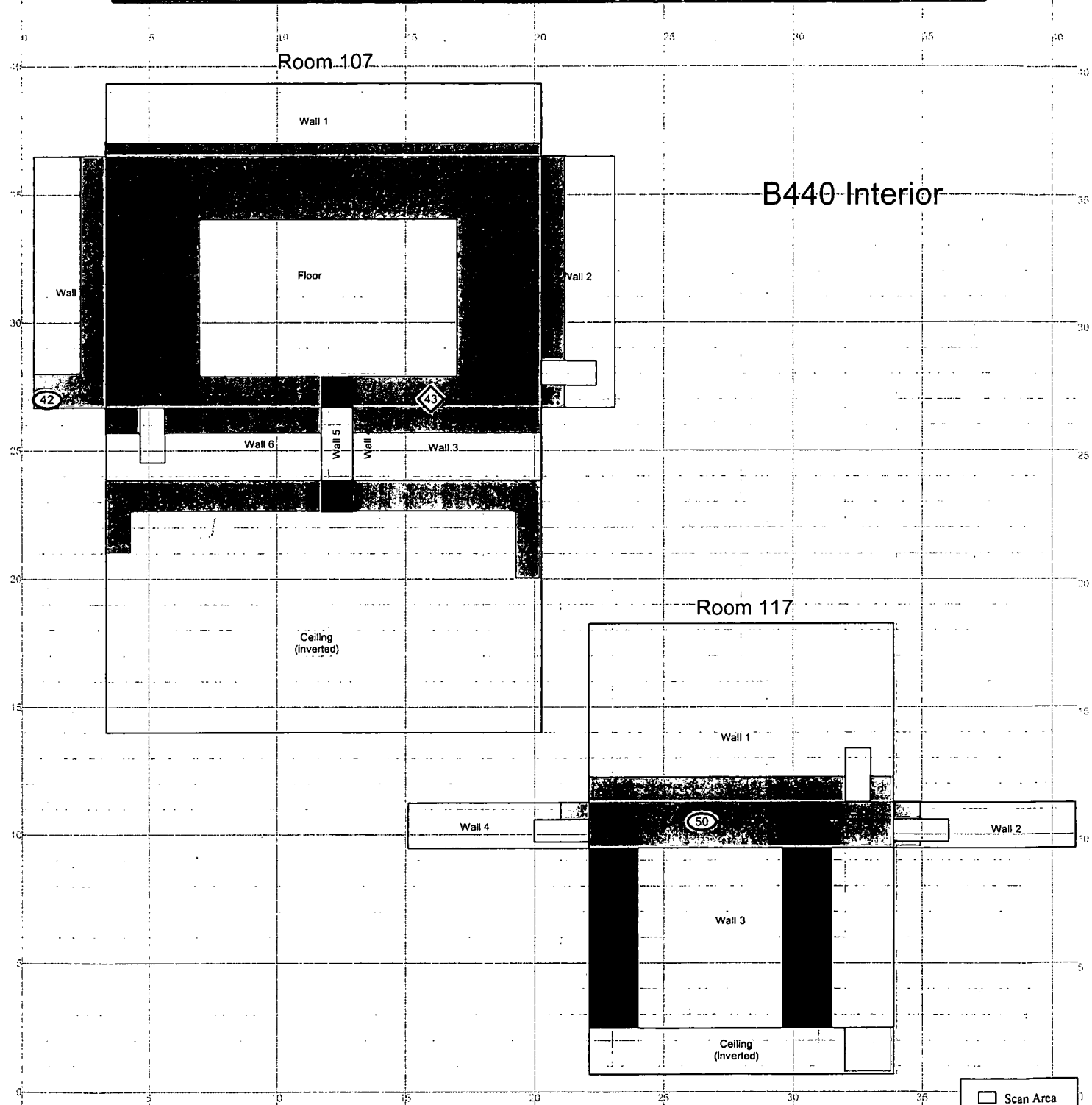


MAP ID: 03-0305/440002_5_SC

MaY 17, 2005

rev. 1

RLC/PDS SURVEY FOR B440		
Survey Area: 5	Survey Unit: 440502	Classification: 2
Building: 440 Westside		
Survey Unit Description: B440 Westside Interior, Rooms 101, 101A, 102, 102A, 103-111 and 114-119, all surfaces		
Total Area 9,843 sq. m.	Floor Area 2,887 sq. m.	
Grid Spacing for Survey Points: 15m X 15m		
		PAGE 6 OF 8



SURVEY MAP LEGEND (a) Smear & TSA Location (b) Smear, TSA & Sample Location □ Open/Inaccessible Area	Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.	N 	0 25 FEET 0 8 METERS	U.S. Department of Energy Rocky Flats Environmental Technology Site
				Prepared by: GIS Dept. 303-966-7707 CH2MHILL Communications Group MAP ID: 03-0305/440002_6_SC
Scan Survey Information Survey Instrument ID #(s) & RCT ID #(s): 1, 3-6, 8-12			Prepared for: KAISER HILL CONSULTANTS May 17, 2005	

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rev. 1

RLC/PDS SURVEY FOR B440

Survey Area: 5 Survey Unit: 440502 Classification: 2

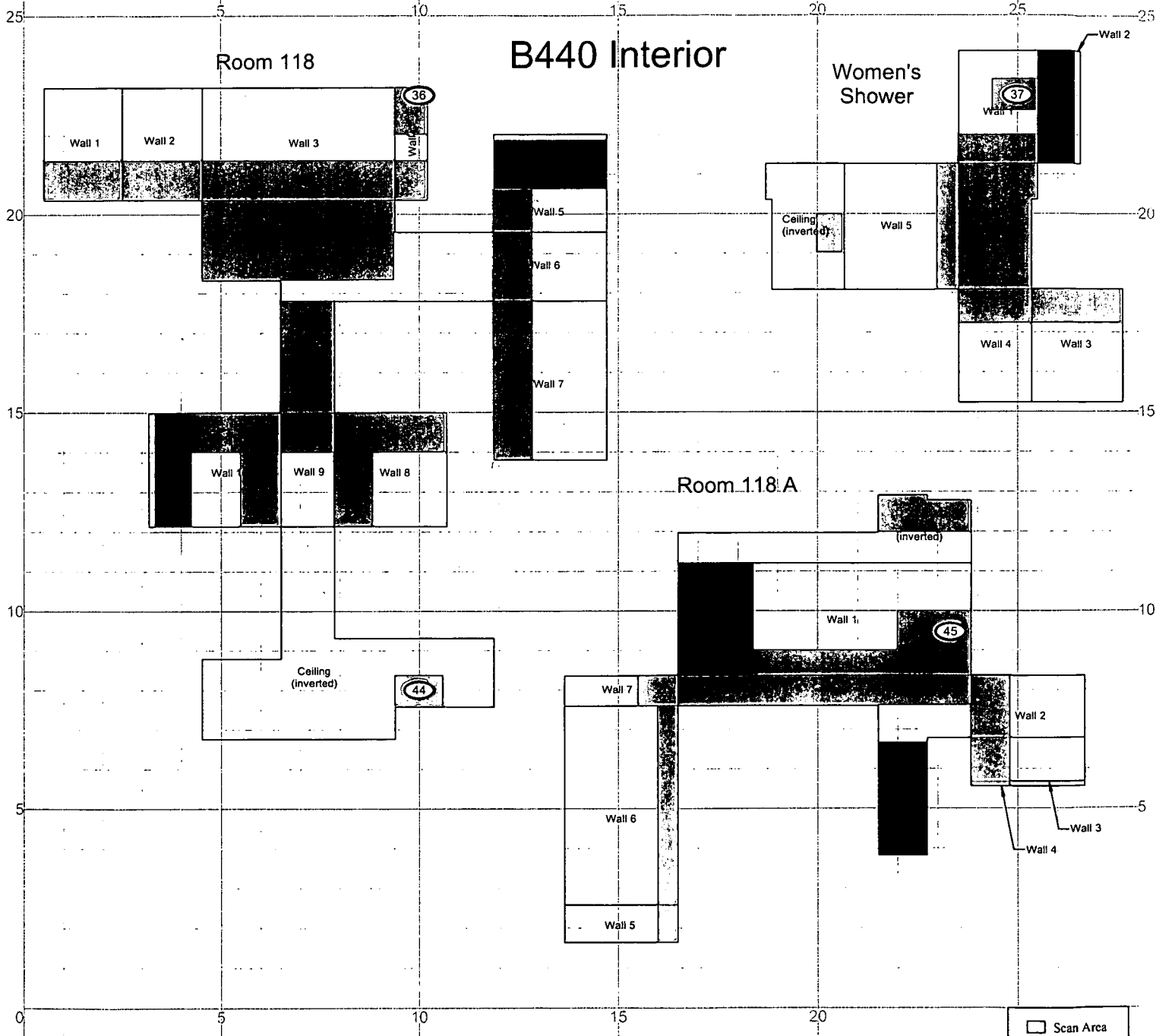
Building: 440 Westside

Survey Unit Description: B440 Westside, Interior, Rooms 101, 101A, 102, 102A, 103-111 and 114-119, all surfaces

Total Area: 9,843 sq. m. Floor Area: 2,887 sq. m.

Grid Spacing for Survey Points: 15m X 15m

PAGE 7 of 8



<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> # Smear & TSA Location * Smear, TSA & Sample Location Open/Inaccessible Area or Shown in Another View 	<p>Neither the United States Government, nor Kaiser Hill Co., nor CH2M Hill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p>	<p>N</p>	<p>0 FEET 15</p> <p>0 METERS 5</p>	<p style="text-align: center;">U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-966-7707</p> <p>Prepared for:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <p>MAP ID: 03-0305/440002_7_SC May 17, 2005</p>
<p>Scan Survey Information</p> <p>Survey Instrument ID #(s) & RCT ID #(s):</p> <p>1, 3-6, 8-12</p>		<p>1 inch = 12 feet 1 grid sq. = 1 sq. m.</p>		

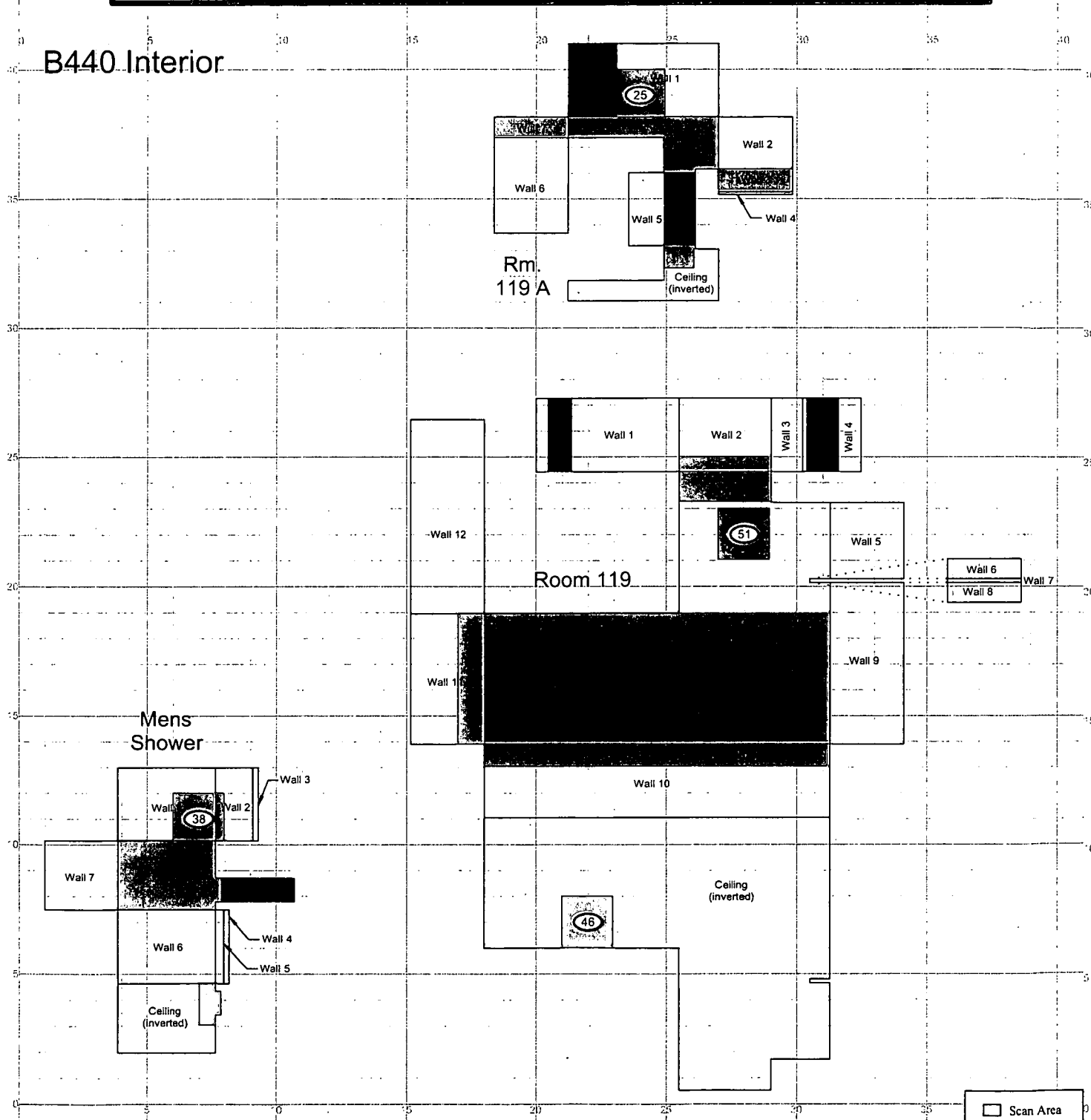
44

RLC/PDS SURVEY FOR B440

Survey Area: 5 Survey Unit: 440502 Classification: 2
 Building: 440 Westside
 Survey Unit Description: B440 Westside Interior, Rooms 101, 101A, 102, 102A,
 103-111 and 114-119, all surfaces
 Total Area: 9,843 sq. m. Floor Area: 2,887 sq. m.
 Grid Spacing for Survey Points: 15m X 15m

PAGE 8 of 8

B440 Interior

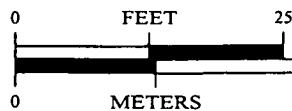


SURVEY MAP LEGEND

- Smear & TSA Location
- ⊕ Smear, TSA & Sample Location
- Open/Inaccessible Area or Shown in Another View

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1, 3-6, 8-12



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-968-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID: 03-0305/440002_8_SC

May 17, 2005

45

Survey Area: 5**Survey Unit:** 440503**Building:** 440**Description:** Building 440 Westside Interior, Rooms 112, 120, 121, 122, 122A, 122B, 123 and 123A (exterior of permacon), all surfaces

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 10

Nbr QC Required: 2

Nbr Random Measurements Performed: 15

Nbr Biased Measurements Performed: 11

Nbr QC Performed: 2

Alpha

Maximum: 24.5 dpm/100cm²Minimum: -12.4 dpm/100cm²Mean: 5.1 dpm/100cm²

Standard Deviation: 9.6

QC Maximum: 1.7 dpm/100cm²QC Minimum: 1.7 dpm/100cm²QC Mean: 1.7 dpm/100cm²Transuranic DCGL_W: 100.0 dpm/100cm²Transuranic DCGL_{EMC}: 300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 10

Nbr Random Measurements Performed: 15

Nbr Biased Measurements Performed: 11

Alpha

Maximum: 5.5 dpm/100cm²Minimum: -1.2 dpm/100cm²Mean: 0.6 dpm/100cm²

Standard Deviation: 1.6

Transuranic DCGL_W: 20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 3

Nbr Biased Required: 0

Nbr Random Collected: 3

Nbr Biased Collected: 0

Uranium

Maximum: 3 dpm/100cm²Minimum: 0 dpm/100cm²Mean: 2 dpm/100cm²

Standard Deviation: 2

Uranium DCGL_W: 5,000 dpm/100cm²Uranium DCGL_{EMC}: 15,000 dpm/100cm²

Transuranic

Maximum: 0 dpm/100cm²Minimum: 0 dpm/100cm²Mean: 0 dpm/100cm²

Standard Deviation: 0

Transuranic DCGL_W: 100 dpm/100cm²Transuranic DCGL_{EMC}: 300 dpm/100cm²

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5**Survey Unit:** 440503**Building:** 440**Description:** Building 440 Westside Interior, Rooms 112, 120, 121, 122, 122A, 122B, 123 and 123A (exterior of permacon), all surfaces

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	511466	05/02/05	Electra	3370	DP-6	07/27/05	0.213	NA	48.0	NA	T/S
2	511466	05/02/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
3	515538	05/16/05	Electra	674	AP-6	08/02/05	0.182	NA	300.0	NA	S
4	511466	05/16/05	Electra	281	AP-6	09/17/05	0.180	NA	300.0	NA	S
5	515538	05/17/05	Electra	3254	DP-6	07/04/05	0.225	NA	48.0	NA	T/S
6	511466	05/17/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
7	515538	05/18/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
8	515538	05/18/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
9	511466	05/18/05	Electra	3254	DP-6	07/04/05	0.225	NA	48.0	NA	T/S
10	511466	05/19/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
11	515538	05/19/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
12	515538	05/19/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R
13	513922	05/25/05	Electra	3127	DP-6	08/21/05	0.206	NA	48.0	NA	T/Q/S
14	515538	05/25/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
15	513922	05/26/05	Electra	680	AP-6	07/07/05	0.172	NA	300.0	NA	S
16	510838	05/26/05	Electra	281	AP-6	09/17/05	0.180	NA	300.0	NA	S
17	510766	05/26/05	Electra	674	AP-6	08/02/05	0.182	NA	300.0	NA	S
18	510766	05/26/05	Electra	3127	DP-6	08/21/05	0.206	NA	300.0	NA	S
19	510838	05/26/05	Electra	3102	DP-6	06/16/05	0.216	NA	300.0	NA	S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5

Survey Unit: 440503

Building: 440

Description: Building 440 Westside Interior, Rooms 112, 120, 121, 122, 122A, 122B, 123 and 123A (exterior of permacon), all surfaces

Comments Sheet

General N/A
Comments:

TSA For instruments that were used for both TSAs and scans (T/S) on the Instrument Data Sheet, The TSA A-Priori MDA is 48.0 and the scan A-Priori MDA is 300.0.
Comments:

RSA N/A
Comments:

Media Media samples were collected from floor surfaces only. The other survey unit surfaces were unpainted or factory original paint.
Comments:

Survey Area: 5

Survey Unit: 440503

Building: 440

Description: Building 440 Westside Interior, Rooms 112, 120, 121, 122, 122A, 122B, 123 and 123A (exterior of permacon), all surfaces

Random Removable Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440503PRP-N001	2	-0.3	N/A	2	-0.3	N/A
440503PRP-N002	7	3.9	N/A	N/A	N/A	N/A
440503PRP-N003	7	5.5	N/A	N/A	N/A	N/A
440503PRP-N004	2	1.2	N/A	2	2.7	N/A
440503PRP-N005	11	-0.3	N/A	N/A	N/A	N/A
440503PRP-N006	12	-1.2	N/A	N/A	N/A	N/A
440503PRP-N007	2	1.2	N/A	2	-0.3	N/A
440503PRP-N008	7	0.9	N/A	N/A	N/A	N/A
440503PRP-N009	7	2.4	N/A	N/A	N/A	N/A
440503PRP-N010	14	2.7	N/A	N/A	N/A	N/A
440503PRP-N011	11	-0.3	N/A	N/A	N/A	N/A
440503PRP-N012	14	1.2	N/A	N/A	N/A	N/A
440503PRP-N013	14	1.2	N/A	N/A	N/A	N/A
440503PRP-N014	14	-0.3	N/A	N/A	N/A	N/A
440503PRP-N015	14	-0.3	N/A	N/A	N/A	N/A

Survey Area: 5**Survey Unit:** 440503**Building:** 440**Description:** Building 440 Westside Interior, Rooms 112, 120, 121, 122, 122A, 122B, 123 and 123A (exterior of permacon), all surfaces

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440503PBP-N016	12	-1.2	N/A	N/A
440503PBP-N017	11	-0.3	N/A	N/A
440503PBP-N018	12	-1.2	N/A	N/A
440503PBP-N019	11	1.2	N/A	N/A
440503PBP-N020	12	-1.2	N/A	N/A
440503PBP-N021	11	-0.3	N/A	N/A
440503PBP-N022	12	0.3	N/A	N/A
440503PBP-N023	11	-0.3	N/A	N/A
440503PBP-N024	12	0.3	N/A	N/A
440503PBP-N025	14	1.2	N/A	N/A
440503PBP-N026	14	-0.3	N/A	N/A

Survey Area: 5**Survey Unit:** 440503**Building:** 440**Description:** Building 440 Westside Interior, Rooms 112, 120, 121, 122, 122A, 122B, 123 and 123A (exterior of permacon), all surfaces**Random/QC Total Surface Activity Data Sheet**

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440503PRP-N001	1	-9.7	N/A	1	-12.4	N/A
440503PRP-N002	5	10.9	N/A	N/A	N/A	N/A
440503PRP-N003	6	18.0	N/A	N/A	N/A	N/A
440503PRP-N004	1	3.0	N/A	1	-0.2	N/A
440503PRP-N005	8	24.5	N/A	N/A	N/A	N/A
440503QRP-N005	13	1.7	N/A	N/A	N/A	N/A
440503PRP-N006	8	21.2	N/A	N/A	N/A	N/A
440503QRP-N006	13	1.7	N/A	N/A	N/A	N/A
440503PRP-N007	1	-6.4	N/A	1	3.1	N/A
440503PRP-N008	5	5.1	N/A	N/A	N/A	N/A
440503PRP-N009	6	6.0	N/A	N/A	N/A	N/A
440503PRP-N010	13	13.3	N/A	N/A	N/A	N/A
440503PRP-N011	8	2.7	N/A	N/A	N/A	N/A
440503PRP-N012	13	13.3	N/A	N/A	N/A	N/A
440503PRP-N013	13	9.9	N/A	N/A	N/A	N/A
440503PRP-N014	13	9.9	N/A	N/A	N/A	N/A
440503PRP-N015	13	16.7	N/A	N/A	N/A	N/A

SL

Survey Area: 5**Survey Unit:** 440503**Building:** 440**Description:** Building 440 Westside Interior, Rooms 112, 120, 121, 122, 122A, 122B, 123 and 123A (exterior of permacon), all surfaces

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440503PBP-N016	9	11.5	N/A	N/A
440503PBP-N017	9	2.6	N/A	N/A
440503PBP-N018	10	15.5	N/A	N/A
440503PBP-N019	10	0.2	N/A	N/A
440503PBP-N020	10	1.6	N/A	N/A
440503PBP-N021	10	-9.0	N/A	N/A
440503PBP-N022	10	3.5	N/A	N/A
440503PBP-N023	10	3.5	N/A	N/A
440503PBP-N024	10	-9.0	N/A	N/A
440503PBP-N025	13	4.5	N/A	N/A
440503PBP-N026	13	-5.2	N/A	N/A

Survey Area: 5

Survey Unit: 440503

Building: 440

Description: Building 440 Westside Interior, Rooms 112, 120, 121, 122, 122A, 122B, 123 and 123A (exterior of permacon), all surfaces

Media Samples Data Sheet

Site Sample ID / Nbr ----- Description	Nuclide	Sample (pCi/g)	Sample MDA (pCi/g)	Weight (g)	Surface Area (in ²)	Sample Nuclide (dpm/100cm ²)	Sample Nuclide MDA (dpm/100cm ²)	Sample Total (dpm/100cm ²)
05C0249-029.001 29 1	U234	0.0000	65.8000	17.10	26.3	0	1,472	Uranium 3 Transuranic 0
	U235	0.1170	0.1760			3	4	
	U238	0.0000	1.5600			0	35	
	Pu239/240	0.0000	1.4622			0	33	
	Am241	0.0000	0.2110			0	5	
05C0249-030.001 30 4, 7	U234	0.0000	49.9000	24.00	26.3	0	1,567	Uranium 0 Transuranic 0
	U235	0.0000	0.2070			0	7	
	U238	0.0000	1.2200			0	38	
	Pu239/240	0.0000	1.0880			0	34	
	Am241	0.0000	0.1570			0	5	

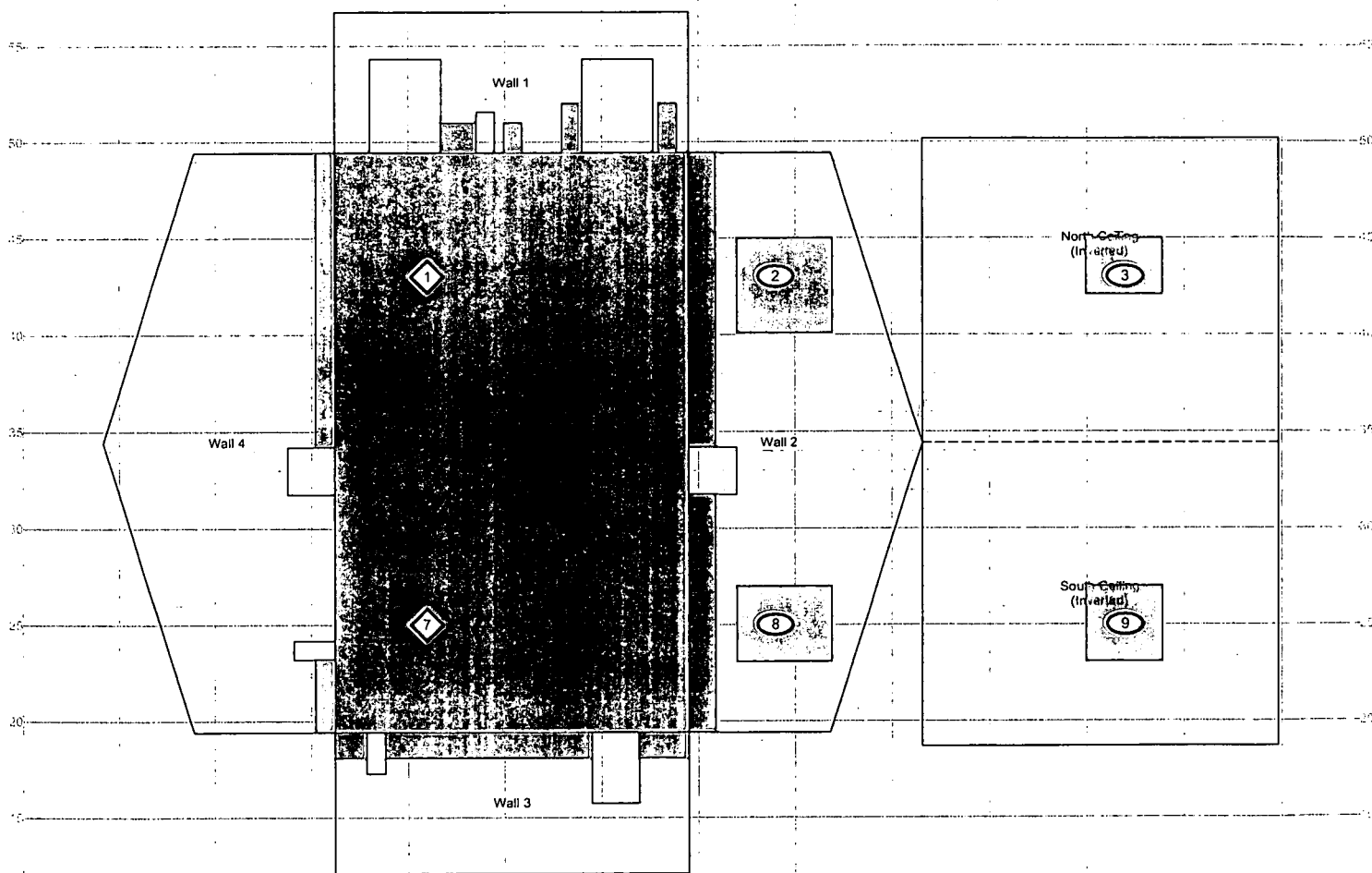
PRE-DEMOLITION SURVEY FOR B440

Survey Area: 5 Survey Unit: 440503 Classification: 2
 Building: B440 Westside
 Survey Unit Description: B440 Westside, Rooms 112, 120, 121, 122, 122A,
 122B, 123 and 123A Exterior Permacon
 Total Area: 4,596 sq. m. Floor Area: 983 sq. m.
 Grid Spacing for Survey Points: 18m X 18m

PAGE 1 OF 6

B440 Interior

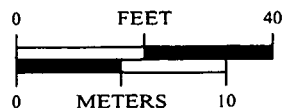
Room 112



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Media Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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1 inch = 30 feet 1 grid sq. = 1 sq. m.

Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
 1, 3-6, 8-10, 13, 15-19

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



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 Communications Group



MAP ID: 03-0305/440003-1_SC

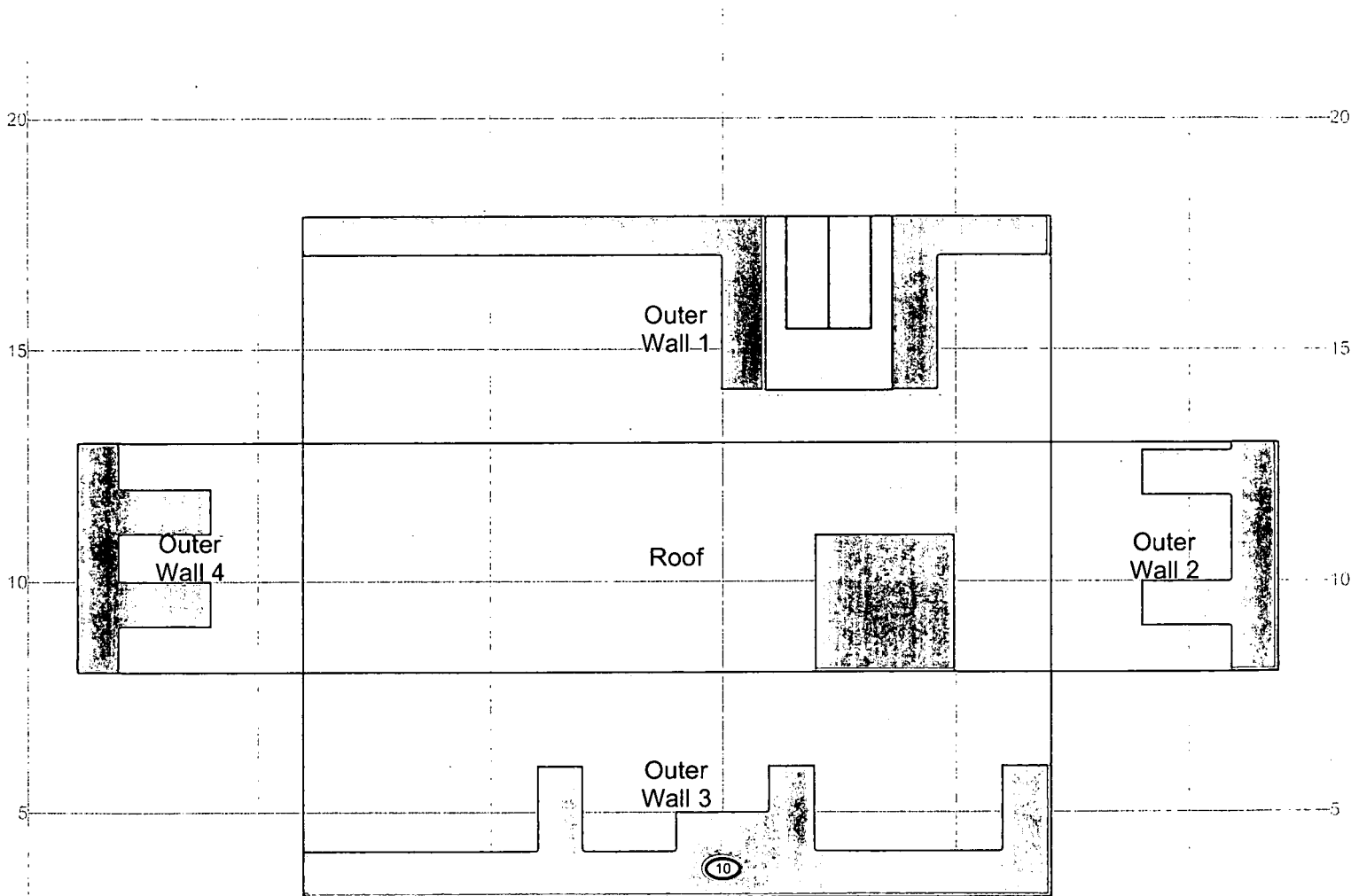
June 1, 2005

PRE-DEMOLITION SURVEY FOR B440

Survey Area: 5 Survey Unit: 440503 Classification: 1
 Building: 440 Westside
 Survey Unit Description: B440 Westside, Rooms 112, 120, 122, 122A, 122B,
 123 and 123A Exterior Permacon
 Total Area: 4,596 sq. m. Floor Area: 983 sq. m.
 Grid Spacing for Survey Points: 18m X 18m

PAGE 2 OF 6

Room 123A Exterior (Accessible from Room 123)

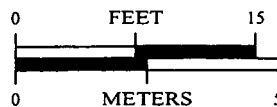


SURVEY MAP LEGEND
 (S) Smear & TSA Location
 (S) Smear, TSA & Media Location
 [Black Box] Open/Inaccessible Area
 [White Box] Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1, 3-6, 8-10, 13, 15-19

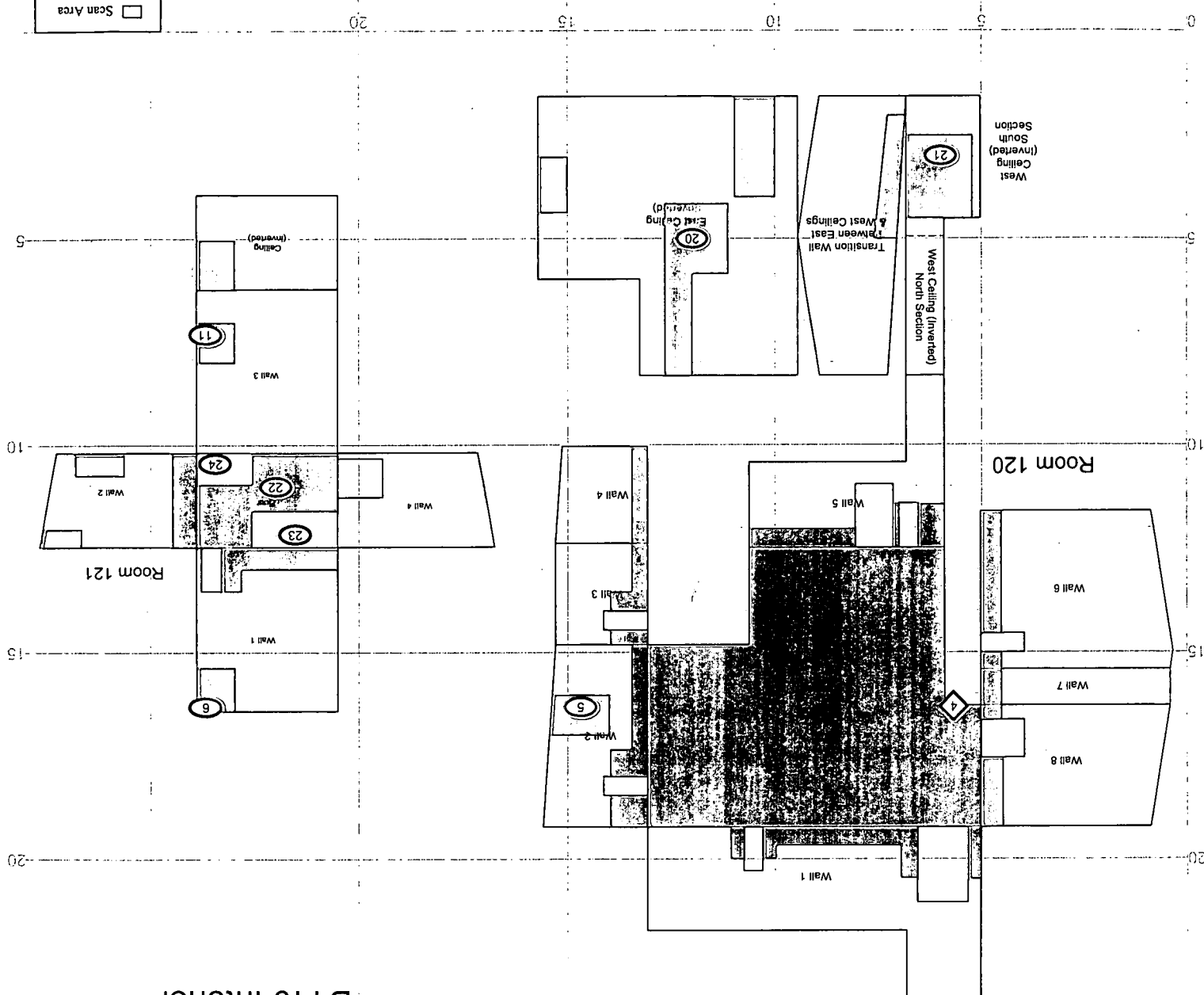


1 inch = 12 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site
 Prepared by: GIS Dept. 303-966-7707 Prepared for:

 Communications Group
 MAP ID: 03-0305/440003-2_SC June 1, 2005

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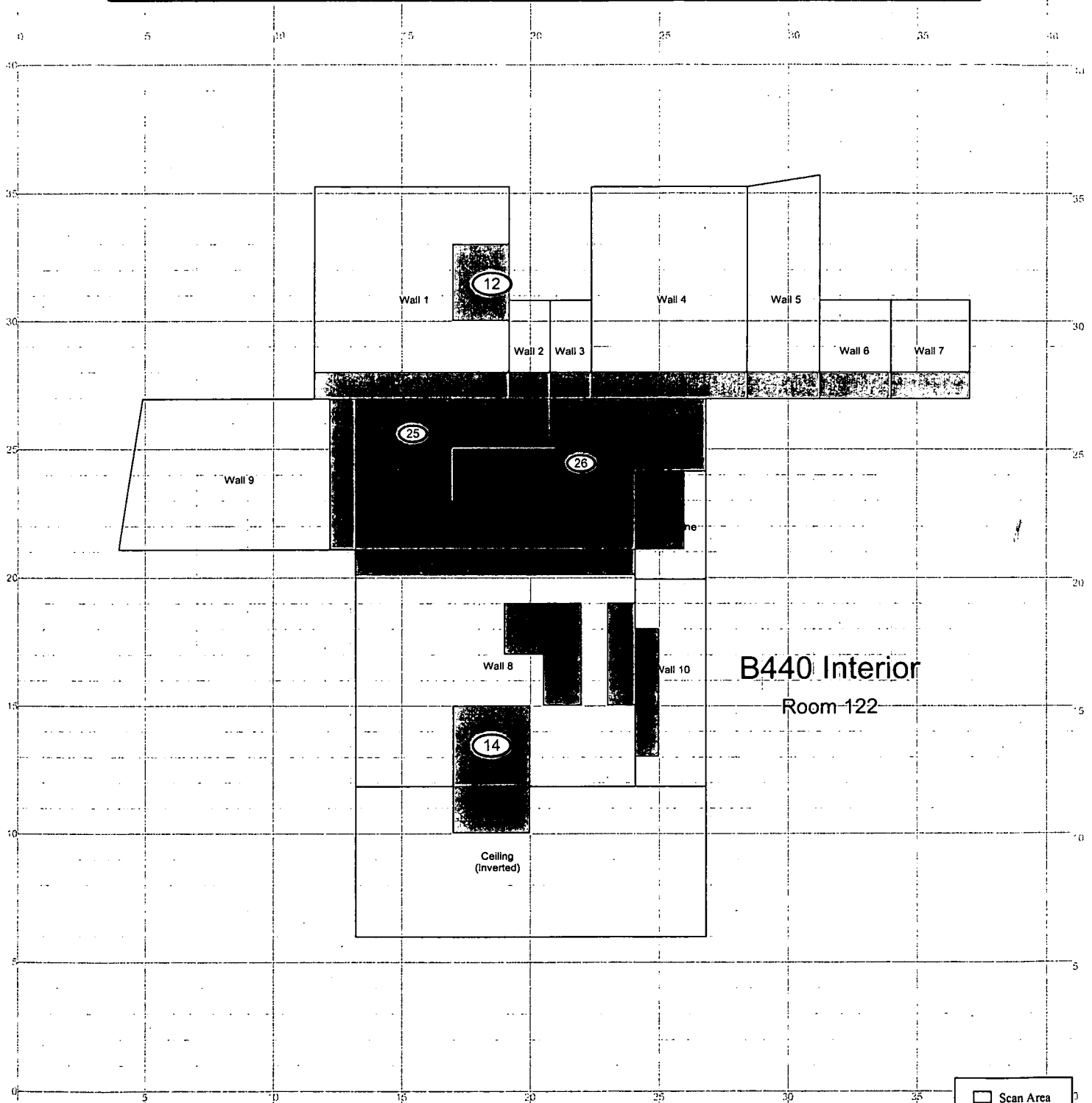


B440 Interior

PRE-DEMOLITION SURVEY FOR B440

Survey Area: 5 Survey Unit: 440503 Classification: 2
 Building: 440 Westside
 Survey Unit Description: B440 Westside, 112, 120, 121, 122, 122A, 122B,
 123 and 123A Exterior Permacon
 Total Area: 4,596 sq. m. Floor Area: 983 sq. m.
 Grid Spacing for Survey Points: 18m X 18m

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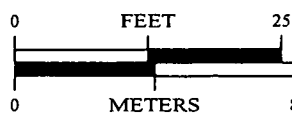
SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Media Location
- Open/Inaccessible Area
- Area in Another Survey Unit
- Low Level Waste

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1, 3-6, 8-10, 13, 15-19



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



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MAP ID: 03-0305/440003-4_SC

June 1, 2005

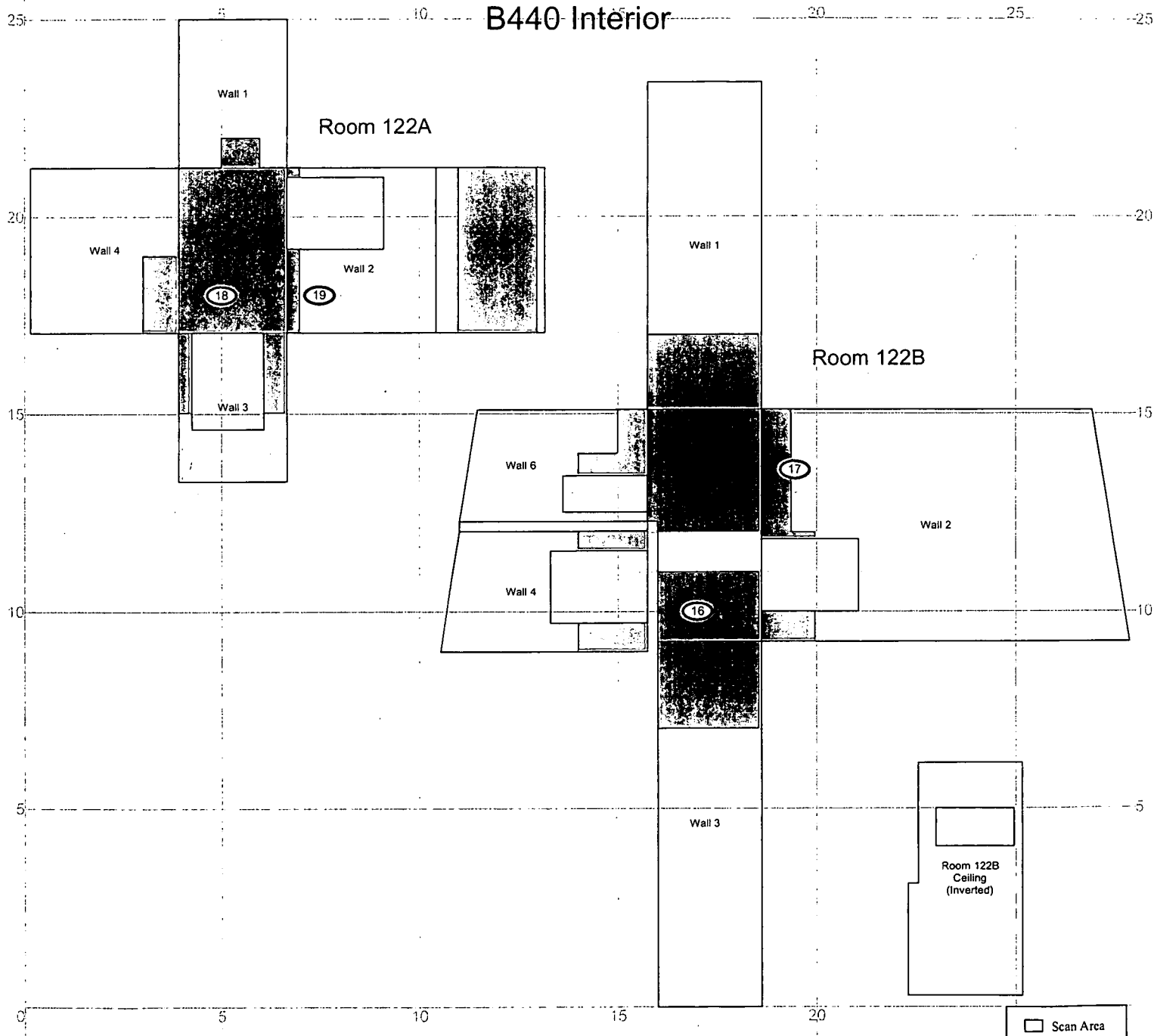
57

PRE-DEMOLITION SURVEY FOR B440

Survey Area: 5 Survey Unit: 440503 Classification: 2
 Building: 440 Westside
 Survey Unit Description: B440 Westside, 112, 120, 121, 122, 122A, 122B,
 123 and 123A Exterior Permacon
 Total Area: 4,596 sq. m. Floor Area: 983 sq. m.
 Grid Spacing for Survey Points: 18m X 18m

PAGE 5 OF 6

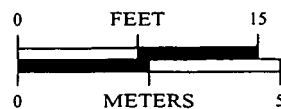
B440 Interior



SURVEY MAP LEGEND

- ⊕ Smear & TSA Location
- ⬠ Smear, TSA & Media Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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1 inch = 12 feet 1 grid sq. = 1 sq. m.

Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
 1, 3-6, 8-10, 13, 15-19

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Prepared by: GIS Dept. 303-966-7707

Prepared for:



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MAP ID: 03-0305/440003-5_SC

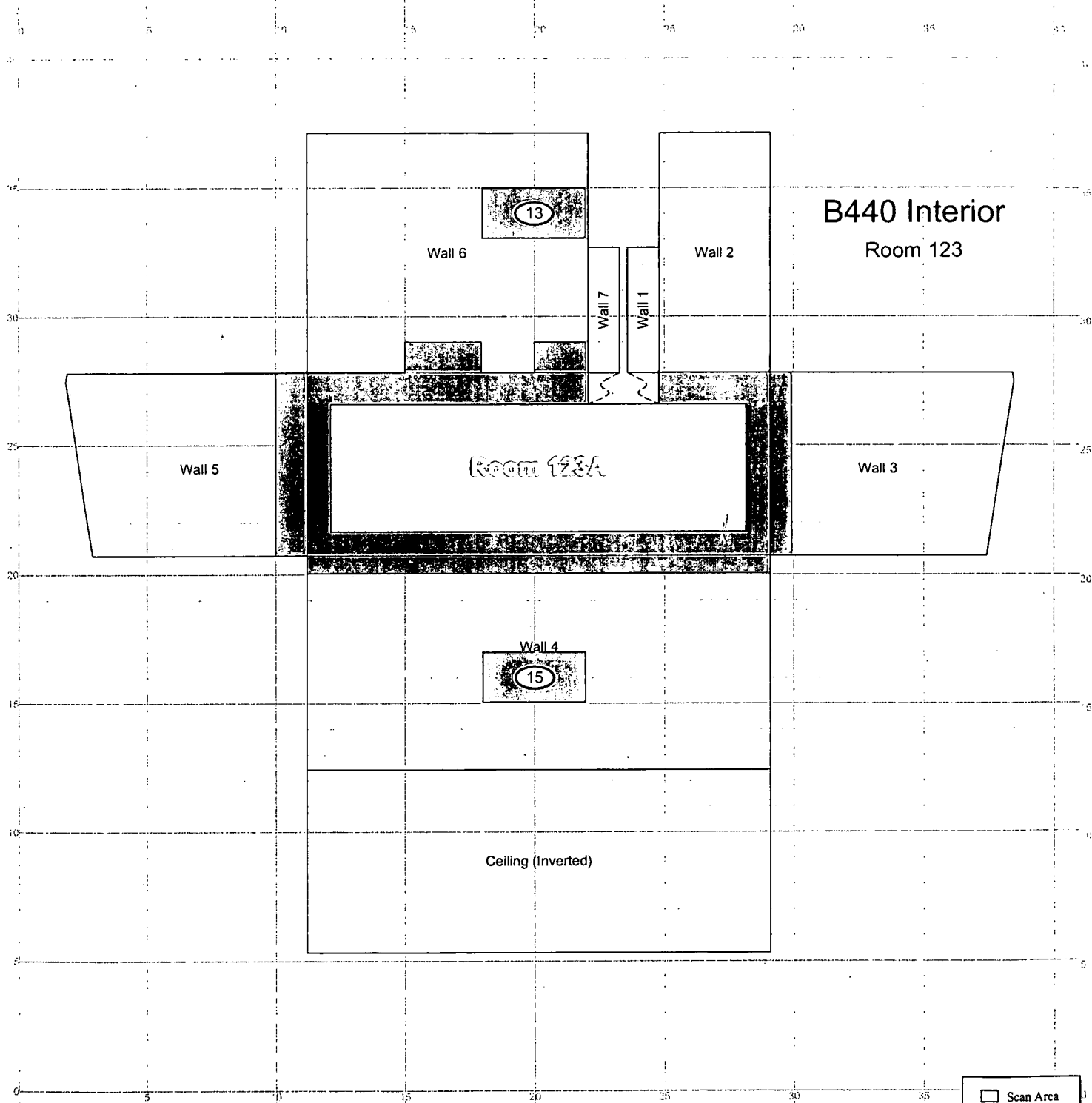
June 1, 2005

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PRE-DEMOLITION SURVEY FOR B440

Survey Area: 5 Survey Unit: 440503 Classification: 2
 Building: 440 Westside
 Survey Unit Description: B440 Westside, Rooms 112, 120, 121, 122, 122A, 122B,
 123 and 123A Exterior Permacon
 Total Area: 4,596 sq. m. Floor Area: 983 sq. m.
 Grid Spacing for Survey Points: 18m X 18m

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SURVEY MAP LEGEND

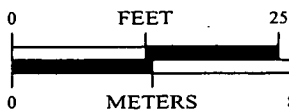
- Smcar & TSA Location
- Smcar, TSA & Media Location
- Open/Inaccessible Area
- Area Shown in Another View

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
 1, 3-6, 8-10, 13, 15-19



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID: 03-0305/440003-6_SC

June 1, 2005

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Survey Area: 5

Survey Unit: 440504

Building: 440

Description: Building 440 Westside Interior, Room 123A (interior of permacon) all surfaces

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 10

Nbr QC Required: 2

Nbr Random Measurements Performed: 17

Nbr Biased Measurements Performed: 10

Nbr QC Performed: 2

Alpha

Maximum: 58.4 dpm/100cm²Minimum: -4.8 dpm/100cm²Mean: 9.8 dpm/100cm²

Standard Deviation: 14.4

QC Maximum: 22.3 dpm/100cm²QC Minimum: 6.3 dpm/100cm²QC Mean: 14.3 dpm/100cm²Transuranic DCGL_w: 100.0 dpm/100cm²Transuranic DCGL_{EMC}: 300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 10

Nbr Random Measurements Performed: 17

Nbr Biased Measurements Performed: 10

Alpha

Maximum: 4.2 dpm/100cm²Minimum: -0.6 dpm/100cm²Mean: 0.3 dpm/100cm²

Standard Deviation: 1.1

Transuranic DCGL_w: 20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 3

Nbr Biased Required: 0

Nbr Random Collected: 3

Nbr Biased Collected: 0

Uranium

Maximum: 94 dpm/100cm²Minimum: 7 dpm/100cm²Mean: 60 dpm/100cm²

Standard Deviation: 47

Uranium DCGL_w: 5,000 dpm/100cm²Uranium DCGL_{EMC}: 15,000 dpm/100cm²

Transuranic

Maximum: 0 dpm/100cm²Minimum: 0 dpm/100cm²Mean: 0 dpm/100cm²

Standard Deviation: 0

Transuranic DCGL_w: 100 dpm/100cm²Transuranic DCGL_{EMC}: 300 dpm/100cm²

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5

Survey Unit: 440504

Building: 440

Description: Building 440 Westside Interior, Room 123A (interior of permacon) all surfaces

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	515538	05/02/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
2	515538	05/02/05	Electra	2352	DP-6	06/09/05	0.221	NA	48.0	NA	T/S
3	510838	05/26/05	Electra	674	AP-6	08/02/05	0.182	NA	300.0	NA	S
4	510766	05/26/05	Electra	281	AP-6	09/17/05	0.180	NA	300.0	NA	S
5	510766	05/26/05	Electra	3127	DP-6	08/21/05	0.206	NA	300.0	NA	S
6	510838	05/26/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
7	511466	05/31/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
8	510766	05/31/05	Electra	3127	DP-6	08/21/05	0.206	NA	48.0	NA	Q
9	511466	05/31/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5

Survey Unit: 440504

Building: 440

Description: Building 440 Westside Interior, Room 123A (interior of permacon) all surfaces

Comments Sheet

General N/A
Comments:

TSA For instruments that were used for both TSAs and scans (T/S) on the Instrument Data Sheet, The TSA A-Priori MDA is 48.0 and the scan A-Priori MDA is 300.0.
Comments:

1. Locations 22-27 were taken on ventilation duct and horizontal surfaces in the overhead.
2. During surveys and media sampling of Survey Unit 440504, fixed contamination above the transuranic DCGLw (100 dpm/100 cm²) was identified in the paint and on top of the paint of the west end of Room 123A floor. Although the area of contamination was only a few small localized spots within a one square meter area, the assumed contaminated area boundary was expanded to the east to the boundary line of the next clean media sample (#11). Four surface measurements were obtained at elevated locations on the floor in the red area of the survey unit map. All removable measurements were less than the transuranic removable DCGLw (20 dpm/100 cm²). The alpha direct measurement results are as follows:

28 - 333.1 dpm/100cm²

29 - 106.2 dpm/100cm²

30 - 6,474.7 dpm/100cm²

31 - 92.3 dpm/100cm²

The floor area indicated in red on the survey unit map has been removed from this survey unit. The contaminated area of the floor will be protected prior to demolition, and removed and managed as low-level waste (LLW) during slab removal.

RSA N/A
Comments:

Media Media samples were collected from floor surfaces only. The other survey unit surfaces were unpainted or factory original paint.
Comments:

Media sample (paint) location 10 was contaminated with transuranic activity of 430 dpm/100cm², which is above the transuranic DCGLw. The floor area west of location 11 (which was a clean paint sample) has been marked with colored paint to indicate the LLW area. The contaminated area of the floor will be protected prior to demolition, and removed and managed as low-level waste (LLW) during slab removal. Refer to Section 3.0 of the PDSR and TSA comments above for further discussion.

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Survey Area: 5

Survey Unit: 440504

Building: 440

Description: Building 440 Westside Interior, Room 123A (interior of permacon) all surfaces.

Random Removable Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440504PRP-N001	9	0.9	N/A	N/A	N/A	N/A
440504PRP-N002	9	0.9	N/A	N/A	N/A	N/A
440504PRP-N003	9	-0.6	N/A	N/A	N/A	N/A
440504PRP-N004	9	0.9	N/A	N/A	N/A	N/A
440504PRP-N005	9	-0.6	N/A	N/A	N/A	N/A
440504PRP-N006	9	-0.6	N/A	N/A	N/A	N/A
440504PRP-N007	9	-0.6	N/A	N/A	N/A	N/A
440504PRP-N008	9	-0.6	N/A	N/A	N/A	N/A
440504PRP-N009	9	-0.6	N/A	N/A	N/A	N/A
440504PRP-N010	1	-0.3	N/A	1	-0.3	N/A
440504PRP-N011	1	1.2	N/A	1	-0.3	N/A
440504PRP-N012	1	-0.3	N/A	1	1.2	N/A
440504PRP-N013	1	-0.3	N/A	1	4.2	N/A
440504PRP-N014	9	-0.6	N/A	N/A	N/A	N/A
440504PRP-N015	9	0.9	N/A	N/A	N/A	N/A
440504PRP-N016	9	-0.6	N/A	N/A	N/A	N/A
440504PRP-N017	9	-0.6	N/A	N/A	N/A	N/A

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Survey Area: 5

Survey Unit: 440504

Building: 440

Description: Building 440 Westside Interior, Room 123A (interior of permacon) all surfaces.

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440504PBP-N018	9	-0.6	N/A	N/A
440504PBP-N019	9	0.9	N/A	N/A
440504PBP-N020	9	2.4	N/A	N/A
440504PBP-N021	9	-0.6	N/A	N/A
440504PBP-N022	9	0.9	N/A	N/A
440504PBP-N023	9	0.9	N/A	N/A
440504PBP-N024	9	-0.6	N/A	N/A
440504PBP-N025	9	-0.6	N/A	N/A
440504PBP-N026	9	0.9	N/A	N/A
440504PBP-N027	9	0.9	N/A	N/A

Survey Area: 5

Survey Unit: 440504

Building: 440

Description: Building 440 Westside Interior, Room 123A, (interior of permacon) all surfaces

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440504PRP-N001	7	4.5	N/A	N/A	N/A	N/A
440504PRP-N002	7	1.3	N/A	N/A	N/A	N/A
440504PRP-N003	7	4.5	N/A	N/A	N/A	N/A
440504PRP-N004	7	-1.5	N/A	N/A	N/A	N/A
440504PRP-N005	7	23.0	N/A	N/A	N/A	N/A
440504PRP-N006	7	7.8	N/A	N/A	N/A	N/A
440504PRP-N007	7	23.0	N/A	N/A	N/A	N/A
440504PRP-N008	7	13.8	N/A	N/A	N/A	N/A
440504PRP-N009	7	44.8	N/A	N/A	N/A	N/A
440504PRP-N010	2	58.4	N/A	2	2.9	N/A
440504PRP-N011	2	25.4	N/A	2	6.1	N/A
440504PRP-N012	2	7.3	N/A	2	12.0	N/A
440504PRP-N013	2	-1.8	N/A	2	2.9	N/A
440504PRP-N014	7	7.8	N/A	N/A	N/A	N/A
440504PRP-N015	7	19.8	N/A	N/A	N/A	N/A
440504QRP-N015	8	6.3	N/A	N/A	N/A	N/A
440504PRP-N016	7	13.8	N/A	N/A	N/A	N/A
440504PRP-N017	7	24.4	N/A	N/A	N/A	N/A
440504QRP-N017	8	22.3	N/A	N/A	N/A	N/A

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Survey Area: 5

Survey Unit: 440504

Building: 440

Description: Building 440 Westside Interior, Room 123A (interior of permacon) all surfaces

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440504PBP-N018	7	-2.0	N/A	N/A
440504PBP-N019	7	-2.0	N/A	N/A
440504PBP-N020	7	1.2	N/A	N/A
440504PBP-N021	7	13.7	N/A	N/A
440504PBP-N022	7	-2.0	N/A	N/A
440504PBP-N023	7	1.2	N/A	N/A
440504PBP-N024	7	1.2	N/A	N/A
440504PBP-N025	7	-4.8	N/A	N/A
440504PBP-N026	7	1.2	N/A	N/A
440504PBP-N027	7	-4.8	N/A	N/A

Survey Area: 5

Survey Unit: 440504

Building: 440

Description: Building 440 Westside Interior, Room 123A (interior of permacon) all surfaces

Media Samples Data Sheet

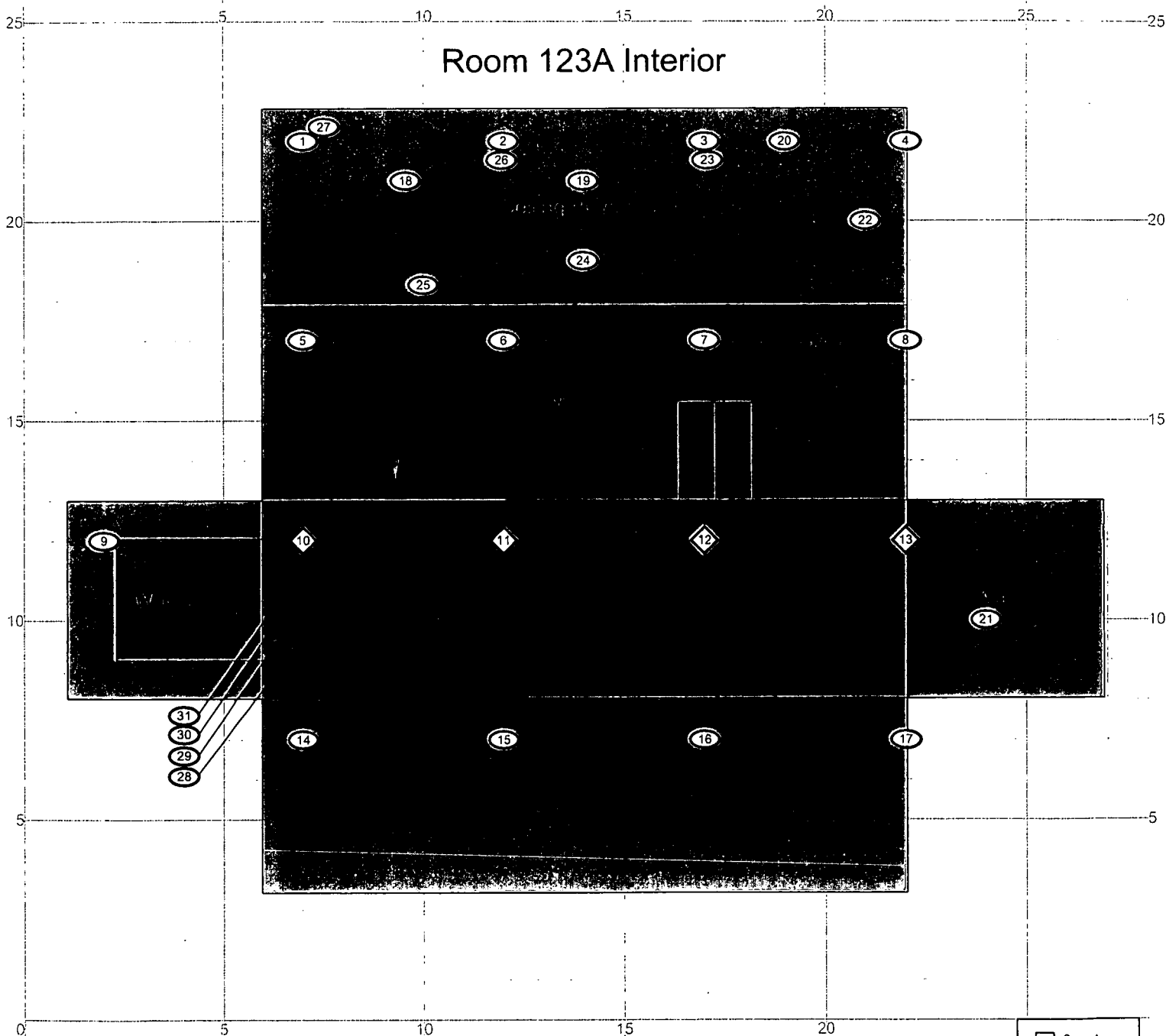
Site Sample ID / Nbr Description	Nuclide	Sample (pCi/g)	Sample MDA (pCi/g)	Weight (g)	Surface Area (ln ²)	Sample Nuclide (dpm/100cm ²)	Sample Nuclide MDA (dpm/100cm ²)	Sample Total (dpm/100cm ²)
05C0249-032.001 32 13	U234	0.0000	54.8000	21.20	26.3	0	1,520	Uranium 7 Transuranic 0
	U235	0.0000	0.2040			0	6	
	U238	0.2510	0.5880			7	16	
	Pu239/240	0.0000	1.1850			0	33	
	Am241	0.0000	0.1710			0	5	
05C0249-042.001 42 11	U234	0.0000	48.0000	37.70	26.3	0	2,368	Uranium 94 Transuranic 0
	U235	0.3330	0.1850			16	9	
	U238	1.5700	1.1800			77	58	
	Pu239/240	0.0000	1.3098			0	65	
	Am241	0.0000	0.1890			0	9	
05C0249-043.001 43 12	U234	0.0000	55.6000	32.10	26.3	0	2,335	Uranium 79 Transuranic 0
	U235	0.3080	0.1970			13	8	
	U238	1.5800	1.3800			66	58	
	Pu239/240	0.0000	1.3375			0	56	
	Am241	0.0000	0.1930			0	8	

RLC SURVEY FOR B440

Survey Area: 5 Survey Unit: 440504 Classification: 1
 Building: 440 Westside
 Survey Unit Description: B440 Westside Room 123A, (Interior of permacon)
 Total Area: 364 sq. m. Floor Area: 80 sq. m.
 Grid Spacing for Survey Points: 5m X 5m

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Room 123A Interior



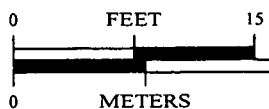
SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Media Location
- Open/Inaccessible Area
- Area in Another Survey Unit
- Low Level Waste

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 2-7



1 inch = 12 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID: 03-0305/440-004-SC

June 1, 2005

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Survey Area: 5**Survey Unit:** 440505**Building:** 440**Description:** Building 440 Westside Interior, Room 113 all surfaces <2m

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 42

Nbr Biased Measurements Required: 10

Nbr QC Required: 3

Nbr Random Measurements Performed: 56

Nbr Biased Measurements Performed: 10

Nbr QC Performed: 3

Alpha

Maximum: 41.1 dpm/100cm²Minimum: -15.3 dpm/100cm²Mean: 6.5 dpm/100cm²

Standard Deviation: 11.4

QC Maximum: 24.0 dpm/100cm²QC Minimum: 3.6 dpm/100cm²QC Mean: 15.3 dpm/100cm²Transuranic DCGLw: 100.0 dpm/100cm²Transuranic DCGL_{EMC}: 300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 42

Nbr Biased Measurements Required: 10

Nbr Random Measurements Performed: 56

Nbr Biased Measurements Performed: 10

Alpha

Maximum: 3.9 dpm/100cm²Minimum: -1.2 dpm/100cm²Mean: 0.0 dpm/100cm²

Standard Deviation: 1.2

Transuranic DCGLw: 20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 21

Nbr Biased Required: 0

Nbr Random Collected: 21

Nbr Biased Collected: 0

Uranium

Maximum: 7 dpm/100cm²Minimum: 0 dpm/100cm²Mean: 1 dpm/100cm²

Standard Deviation: 2

Uranium DCGLw: 5,000 dpm/100cm²Uranium DCGL_{EMC}: 15,000 dpm/100cm²

Transuranic

Maximum: 0 dpm/100cm²Minimum: 0 dpm/100cm²Mean: 0 dpm/100cm²

Standard Deviation: 0

Transuranic DCGLw: 100 dpm/100cm²Transuranic DCGL_{EMC}: 300 dpm/100cm²

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5

Survey Unit: 440505

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces <2m

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	511466	04/28/05	Electra	3370	DP-6	07/27/05	0.213	NA	48.0	NA	T/S
2	515538	04/28/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
3	515538	05/02/05	Electra	3370	DP-6	07/27/05	0.213	NA	48.0	NA	T/S
4	511466	05/02/05	Electra	2352	DP-6	06/09/05	0.221	NA	48.0	NA	T/S
5	511466	05/02/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
6	511466	05/02/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R
7	515538	05/18/05	Electra	3254	DP-6	07/04/05	0.225	NA	48.0	NA	T/Q/S
8	511466	05/18/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/Q/S
9	515538	05/19/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
10	515538	05/19/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5

Survey Unit: 440505

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces <2m

Comments Sheet

General N/A
Comments:

TSA For instruments that were used for both TSAs and scans (T/S) on the Instrument Data Sheet, The TSA A-Priori MDA is 48.0 and the
Comments: scan A-Priori MDA is 300.0.

RSA N/A
Comments:

Media Media samples were collected from floor surfaces only. The other survey unit surfaces were *unpainted or factory original paint*.
Comments:

Survey Area: 5

Survey Unit: 440505

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces <2m

Random Removable Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440505PRP-N001	9	2.7	N/A	N/A	N/A	N/A
440505PRP-N002	10	0.3	N/A	N/A	N/A	N/A
440505PRP-N003	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N004	10	-1.2	N/A	N/A	N/A	N/A
440505PRP-N005	2	0.6	N/A	2	-0.9	N/A
440505PRP-N006	2	0.6	N/A	2	0.6	N/A
440505PRP-N007	2	-0.9	N/A	2	2.1	N/A
440505PRP-N008	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N009	10	-1.2	N/A	N/A	N/A	N/A
440505PRP-N010	2	-0.9	N/A	2	-0.9	N/A
440505PRP-N011	2	0.6	N/A	2	2.1	N/A
440505PRP-N012	2	-0.9	N/A	2	0.6	N/A
440505PRP-N013	9	1.2	N/A	N/A	N/A	N/A
440505PRP-N014	10	0.3	N/A	N/A	N/A	N/A
440505PRP-N015	2	-0.9	N/A	2	2.1	N/A
440505PRP-N016	2	-0.9	N/A	2	2.1	N/A
440505PRP-N017	2	-0.9	N/A	2	-0.9	N/A
440505PRP-N018	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N019	10	1.8	N/A	N/A	N/A	N/A
440505PRP-N020	5	-0.6	N/A	5	0.9	N/A
440505PRP-N021	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N022	6	-1.2	N/A	6	1.8	N/A
440505PRP-N023	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N024	10	-1.2	N/A	N/A	N/A	N/A
440505PRP-N025	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N026	10	-1.2	N/A	N/A	N/A	N/A
440505PRP-N027	5	-0.6	N/A	5	-0.6	N/A
440505PRP-N028	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N029	10	-1.2	N/A	N/A	N/A	N/A

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Survey Area: 5

Survey Unit: 440505

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces <2m

Random Removable Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440505PRP-N030	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N031	10	-1.2	N/A	N/A	N/A	N/A
440505PRP-N032	6	0.3	N/A	6	1.8	N/A
440505PRP-N033	9	1.2	N/A	N/A	N/A	N/A
440505PRP-N034	10	-1.2	N/A	N/A	N/A	N/A
440505PRP-N035	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N036	10	-1.2	N/A	N/A	N/A	N/A
440505PRP-N037	5	-0.6	N/A	5	0.9	N/A
440505PRP-N038	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N039	10	0.3	N/A	N/A	N/A	N/A
440505PRP-N040	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N041	10	-1.2	N/A	N/A	N/A	N/A
440505PRP-N042	6	-1.2	N/A	6	3.3	N/A
440505PRP-N043	9	1.2	N/A	N/A	N/A	N/A
440505PRP-N044	10	-1.2	N/A	N/A	N/A	N/A
440505PRP-N045	5	-0.6	N/A	5	-0.6	N/A
440505PRP-N046	6	-1.2	N/A	6	0.3	N/A
440505PRP-N047	5	-0.6	N/A	5	0.9	N/A
440505PRP-N048	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N049	10	-1.2	N/A	N/A	N/A	N/A
440505PRP-N050	6	0.3	N/A	6	-1.2	N/A
440505PRP-N051	5	-0.6	N/A	5	3.9	N/A
440505PRP-N052	6	-1.2	N/A	6	-1.2	N/A
440505PRP-N053	9	1.2	N/A	N/A	N/A	N/A
440505PRP-N054	10	-1.2	N/A	N/A	N/A	N/A
440505PRP-N055	9	-0.3	N/A	N/A	N/A	N/A
440505PRP-N056	10	-1.2	N/A	N/A	N/A	N/A

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Survey Area: 5**Survey Unit:** 440505**Building:** 440**Description:** Building 440 Westside Interior, Room 113 all surfaces <2m**Biased Removable Surface Activity Data Sheet**

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440505PBP-N057	9	-0.3	N/A	N/A
440505PBP-N058	10	3.3	N/A	N/A
440505PBP-N059	9	1.2	N/A	N/A
440505PBP-N060	10	-1.2	N/A	N/A
440505PBP-N061	9	-0.3	N/A	N/A
440505PBP-N062	10	0.3	N/A	N/A
440505PBP-N063	9	-0.3	N/A	N/A
440505PBP-N064	10	-1.2	N/A	N/A
440505PBP-N065	9	1.2	N/A	N/A
440505PBP-N066	10	0.3	N/A	N/A

Survey Area: 5

Survey Unit: 440505

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces <2m

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440505PRP-N001	8	25.0	N/A	N/A	N/A	N/A
440505QRP-N002	7	3.6	N/A	N/A	N/A	N/A
440505PRP-N002	8	27.8	N/A	N/A	N/A	N/A
440505PRP-N003	8	18.5	N/A	N/A	N/A	N/A
440505PRP-N004	8	15.7	N/A	N/A	N/A	N/A
440505PRP-N005	1	-5.9	N/A	1	7.6	N/A
440505PRP-N006	1	-2.6	N/A	1	1.0	N/A
440505PRP-N007	1	-5.9	N/A	1	-8.4	N/A
440505PRP-N008	8	9.2	N/A	N/A	N/A	N/A
440505PRP-N009	8	18.5	N/A	N/A	N/A	N/A
440505PRP-N010	1	-4.5	N/A	1	1.0	N/A
440505PRP-N011	1	-3.1	N/A	1	7.6	N/A
440505PRP-N012	1	6.8	N/A	1	-1.8	N/A
440505PRP-N013	8	3.2	N/A	N/A	N/A	N/A
440505PRP-N014	8	15.7	N/A	N/A	N/A	N/A
440505PRP-N015	1	-5.9	N/A	1	-1.8	N/A
440505PRP-N016	1	-2.6	N/A	1	4.3	N/A
440505PRP-N017	1	0.2	N/A	1	26.3	N/A
440505PRP-N018	8	12.5	N/A	N/A	N/A	N/A
440505PRP-N019	8	21.7	N/A	N/A	N/A	N/A
440505PRP-N020	3	6.8	N/A	3	29.2	N/A
440505PRP-N021	7	-3.3	N/A	N/A	N/A	N/A
440505PRP-N022	3	-9.2	N/A	3	17.0	N/A
440505PRP-N023	8	15.7	N/A	N/A	N/A	N/A
440505PRP-N024	7	41.1	N/A	N/A	N/A	N/A
440505QRP-N024	8	18.3	N/A	N/A	N/A	N/A
440505PRP-N025	7	-0.6	N/A	N/A	N/A	N/A

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Survey Area: 5

Survey Unit: 440505

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces <2m

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440505PRP-N026	7	-6.4	N/A	N/A	N/A	N/A
440505PRP-N027	4	6.0	N/A	4	3.6	N/A
440505PRP-N028	8	15.7	N/A	N/A	N/A	N/A
440505PRP-N029	8	6.5	N/A	N/A	N/A	N/A
440505PRP-N030	7	14.5	N/A	N/A	N/A	N/A
440505PRP-N031	7	14.5	N/A	N/A	N/A	N/A
440505PRP-N032	4	-3.1	N/A	4	3.6	N/A
440505PRP-N033	8	12.5	N/A	N/A	N/A	N/A
440505QRP-N034	7	24.0	N/A	N/A	N/A	N/A
440505PRP-N034	8	31.0	N/A	N/A	N/A	N/A
440505PRP-N035	7	2.5	N/A	N/A	N/A	N/A
440505PRP-N036	7	2.5	N/A	N/A	N/A	N/A
440505PRP-N037	4	-6.3	N/A	4	3.6	N/A
440505PRP-N038	8	12.5	N/A	N/A	N/A	N/A
440505PRP-N039	8	27.8	N/A	N/A	N/A	N/A
440505PRP-N040	7	11.4	N/A	N/A	N/A	N/A
440505PRP-N041	7	2.5	N/A	N/A	N/A	N/A
440505PRP-N042	4	-3.1	N/A	4	-11.3	N/A
440505PRP-N043	8	3.2	N/A	N/A	N/A	N/A
440505PRP-N044	8	-2.8	N/A	N/A	N/A	N/A
440505PRP-N045	4	-9.4	N/A	4	9.5	N/A
440505PRP-N046	4	-3.1	N/A	4	6.8	N/A
440505PRP-N047	4	-15.3	N/A	4	15.8	N/A
440505PRP-N048	8	3.2	N/A	N/A	N/A	N/A
440505PRP-N049	8	3.2	N/A	N/A	N/A	N/A
440505PRP-N050	4	-9.4	N/A	4	-8.6	N/A
440505PRP-N051	4	8.7	N/A	4	0.4	N/A

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Survey Area: 5**Survey Unit:** 440505**Building:** 440**Description:** Building 440 Westside Interior, Room 113 all surfaces <2m

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Pre Media Sample Data			Post Media Sample Data		
	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)
440505PRP-N052	4	6.0	N/A	4	-2.3	N/A
440505PRP-N053	8	12.5	N/A	N/A	N/A	N/A
440505PRP-N054	8	18.5	N/A	N/A	N/A	N/A
440505PRP-N055	8	3.2	N/A	N/A	N/A	N/A
440505PRP-N056	8	6.5	N/A	N/A	N/A	N/A

Survey Area: 5**Survey Unit:** 440505**Building:** 440**Description:** Building 440 Westside Interior, Room 113 all surfaces <2m**Biased Total Surface Activity Data Sheet**

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440505PBP-N057	7	23.3	N/A	N/A
440505PBP-N058	7	17.0	N/A	N/A
440505PBP-N059	7	8.2	N/A	N/A
440505PBP-N060	7	11.3	N/A	N/A
440505PBP-N061	7	-6.5	N/A	N/A
440505PBP-N062	7	5.5	N/A	N/A
440505PBP-N063	7	29.0	N/A	N/A
440505PBP-N064	8	-2.9	N/A	N/A
440505PBP-N065	8	21.6	N/A	N/A
440505PBP-N066	8	-2.9	N/A	N/A

Survey Area: 5

Survey Unit: 440505

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces <2m

Media Samples Data Sheet

Site Sample ID / Nbr Description	Nuclide	Sample (pCi/g)	Sample MDA (pCi/g)	Weight (g)	Surface Area (in ²)	Sample Nuclide (dpm/100cm ²)	Sample Nuclide MDA (dpm/100cm ²)	Sample Total (dpm/100cm ²)
05C0249-040.001 31 5	U234	0.0000	698.0000	2.30	26.3	0	2,101	Uranium 0 Transuranic 0
	U235	0.0000	2.7400			0	8	
	U238	0.0000	16.6000			0	50	
	Pu239/240	0.0000	15.5925			0	47	
	Am241	0.0000	2.2500			0	7	
05C0249-032.001 32 7	U234	0.0000	54.8000	21.20	26.3	0	1,520	Uranium 7 Transuranic 0
	U235	0.0000	0.2040			0	6	
	U238	0.2510	0.5880			7	16	
	Pu239/240	0.0000	1.1850			0	33	
	Am241	0.0000	0.1710			0	5	
05C0249-033.001 33 6, 10, 11, 15	U234	0.0000	1.3300	22.20	26.3	0	39	Uranium 0 Transuranic 0
	U235	0.0000	0.2410			0	7	
	U238	0.0000	1.3300			0	39	
	Pu239/240	0.0000	1.2751			0	37	
	Am241	0.0000	0.1840			0	5	
05C0249-034.001 34 12, 16, 17	U234	0.0000	54.8000	21.10	26.3	0	1,513	Uranium 0 Transuranic 0
	U235	0.0000	0.2280			0	6	
	U238	0.0000	1.2600			0	35	
	Pu239/240	0.0000	1.1712			0	32	
	Am241	0.0000	0.1690			0	5	
05C0249-035.001 35 20, 22, 27	U234	0.0000	44.7000	27.30	26.3	0	1,597	Uranium 0 Transuranic 0
	U235	0.0000	0.1800			0	6	
	U238	0.0000	1.0600			0	38	
	Pu239/240	0.0000	0.9979			0	36	
	Am241	0.0000	0.1440			0	5	
05C0249-036.001 36 32, 37	U234	0.0000	54.1000	21.00	26.3	0	1,486	Uranium 0 Transuranic 0
	U235	0.0000	0.2080			0	6	
	U238	0.0000	1.2600			0	35	
	Pu239/240	0.0000	1.0949			0	30	
	Am241	0.0000	0.1580			0	4	
05C0249-037.001 37 42, 45	U234	0.0000	58.1000	19.90	26.3	0	1,513	Uranium 0 Transuranic 0
	U235	0.0000	0.2300			0	6	
	U238	0.0000	1.4300			0	37	
	Pu239/240	0.0000	1.2613			0	33	
	Am241	0.0000	0.1820			0	5	

Survey Area: 5

Survey Unit: 440505

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces <2m

Media Samples Data Sheet

Site Sample ID / Nbr Description	Nuclide	Sample (pCi/g)	Sample MDA (pCi/g)	Weight (g)	Surface Area (In ²)	Sample Nuclide (dpm/100cm ²)	Sample Nuclide MDA (dpm/100cm ²)	Sample Total (dpm/100cm ²)
05C0249-038.001 38 46, 47	U234	0.0000	61.4000	18.60	26.3	0	1,494	Uranium 0 Transuranic 0
	U235	0.0000	0.2230			0	5	
	U238	0.0000	1.3900			0	34	
	Pu239/240	0.0000	1.5523			0	38	
	Am241	0.0000	0.2240			0	6	
05C0249-039.001 39 50, 51, 52	U234	0.0000	57.6000	21.10	26.3	0	1,590	Uranium 0 Transuranic 0
	U235	0.0000	22.9000			0	632	
	U238	0.0000	1.3600			0	38	
	Pu239/240	0.0000	1.1781			0	33	
	Am241	0.0000	0.1700			0	5	

PRE-DEMOLITION SURVEY FOR B440

Survey Area: 5 Survey Unit: 440505 Classification: 1
 Building: 440 Westside
 Survey Unit Description: B440 Westside, Rm 113 Interior Floor & Walls below 2 meters.
 Total Area: 431 sq. m. Floor Area: 275 sq. m.
 Grid Spacing for Survey Points: 3m X 3m

PAGE 1 OF 1

Wall 1

Room 113

STARTING POINT
FOR SQUARE
SAMPLING GRID
(X21, Y25)

Wall 3

Scan Area

SURVEY MAP LEGEND

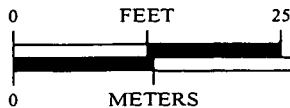
- Smear & TSA Location
- Smear, TSA & Media Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) & RCT ID #(s):
1,3,4,7,8



1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



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Communications Group



MAP ID: 03-0305440-005_SC

May 25, 2005

Survey Area: 5**Survey Unit:** 440506**Building:** 440**Description:** Building 440 Westside Interior, Room 113 all surfaces >2m

Rocky Flats Environmental Technology Site Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 10

Nbr QC Required: 2

Nbr Random Measurements Performed: 19

Nbr Biased Measurements Performed: 10

Nbr QC Performed: 2

Alpha

Maximum: 40.1 dpm/100cm²Minimum: -9.8 dpm/100cm²Mean: 8.6 dpm/100cm²

Standard Deviation: 11.5

QC Maximum: 23.6 dpm/100cm²QC Minimum: 8.9 dpm/100cm²QC Mean: 16.2 dpm/100cm²Transuranic DCGL_w: 100.0 dpm/100cm²Transuranic DCGL_{EMC}: 300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15

Nbr Biased Measurements Required: 10

Nbr Random Measurements Performed: 19

Nbr Biased Measurements Performed: 10

Alpha

Maximum: 2.4 dpm/100cm²Minimum: -1.8 dpm/100cm²Mean: -0.4 dpm/100cm²

Standard Deviation: 1.3

Transuranic DCGL_w: 20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0

Nbr Biased Required: 0

Nbr Random Collected: 0

Nbr Biased Collected: 0

Uranium

Maximum: NA dpm/100cm²Minimum: NA dpm/100cm²Mean: NA dpm/100cm²

Standard Deviation: NA

Uranium DCGL_w: 5,000 dpm/100cm²Uranium DCGL_{EMC}: 15,000 dpm/100cm²

Transuranic

Maximum: NA dpm/100cm²Minimum: NA dpm/100cm²Mean: NA dpm/100cm²

Standard Deviation: NA

Transuranic DCGL_w: 100 dpm/100cm²Transuranic DCGL_{EMC}: 300 dpm/100cm²

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5

Survey Unit: 440506

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces >2m

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm ²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	515538	05/16/05	Electra	674	AP-6	08/02/05	0.182	NA	300.0	NA	S
2	511466	05/16/05	Electra	281	AP-6	09/17/05	0.180	NA	300.0	NA	S
3	515538	05/17/05	Electra	674	AP-6	08/02/05	0.182	NA	300.0	NA	S
4	511466	05/17/05	Electra	3254	DP-6	07/04/05	0.225	NA	48.0	NA	T/S
5	515538	05/17/05	Electra	3102	DP-6	06/16/05	0.216	NA	48.0	NA	T/S
6	515538	05/18/05	SAC-4	767	NA	08/03/05	0.330	NA	10.0	NA	R
7	515538	05/18/05	SAC-4	1130	NA	07/03/05	0.330	NA	10.0	NA	R
8	511466	05/18/05	Electra	3254	DP-6	07/04/05	0.225	NA	48.0	NA	Q

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

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Survey Area: 5

Survey Unit: 440506

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces >2m

Comments Sheet

General N/A
Comments:

TSA For instruments that were used for both TSAs and scans (T/S) on the Instrument Data Sheet, The TSA A-Priori MDA is 48.0 and the scan A-Priori MDA is 300.0.
Comments:

1. Locations 20-22 taken inside exhaust ventilation duct.
2. Locations 23-26 taken on outside of supply duct.
3. Locations 27-29 taken on horizontal roof surfaces of permacon.
4. A scan survey was performed on a minimum of 10% of the permacon surfaces.

RSA N/A
Comments:

Media No media samples were required for this survey unit. The surfaces were unpainted or factory original paint.
Comments:

Survey Area: 5

Survey Unit: 440506

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces >2m

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440506PRP-N001	6	2.4	N/A	N/A
440506PRP-N002	7	-1.8	N/A	N/A
440506PRP-N003	6	-0.6	N/A	N/A
440506PRP-N004	7	-1.8	N/A	N/A
440506PRP-N005	6	0.9	N/A	N/A
440506PRP-N006	7	-1.8	N/A	N/A
440506PRP-N007	6	-0.6	N/A	N/A
440506PRP-N008	7	-0.3	N/A	N/A
440506PRP-N009	6	2.4	N/A	N/A
440506PRP-N010	7	-1.8	N/A	N/A
440506PRP-N011	6	-0.6	N/A	N/A
440506PRP-N012	7	-1.8	N/A	N/A
440506PRP-N013	6	0.9	N/A	N/A
440506PRP-N014	7	-0.3	N/A	N/A
440506PRP-N015	6	-0.6	N/A	N/A
440506PRP-N016	7	-0.3	N/A	N/A
440506PRP-N017	6	-0.6	N/A	N/A
440506PRP-N018	7	-1.8	N/A	N/A
440506PRP-N019	6	0.9	N/A	N/A

Survey Area: 5

Survey Unit: 440506

Building: 440

Description: Building 440 Westside Interior, Room 113 all surfaces >2m

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440506PBP-N020	7	-1.8	N/A	N/A
440506PBP-N021	6	0.9	N/A	N/A
440506PBP-N022	7	-1.8	N/A	N/A
440506PBP-N023	6	0.9	N/A	N/A
440506PBP-N024	7	1.2	N/A	N/A
440506PBP-N025	6	-0.6	N/A	N/A
440506PBP-N026	7	-1.8	N/A	N/A
440506PBP-N027	6	-0.6	N/A	N/A
440506PBP-N028	7	1.2	N/A	N/A
440506PBP-N029	6	-0.6	N/A	N/A

Survey Area: 5**Survey Unit:** 440506**Building:** 440**Description:** Building 440 Westside Interior, Room 113 all surfaces >2m**Random/QC Total Surface Activity Data Sheet**

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440506PRP-N001	5	27.6	N/A	N/A
440506PRP-N002	5	18.3	N/A	N/A
440506PRP-N003	4	-4.0	N/A	N/A
440506PRP-N004	5	21.6	N/A	N/A
440506PRP-N005	5	15.1	N/A	N/A
440506PRP-N006	4	-9.8	N/A	N/A
440506PRP-N007	5	3.1	N/A	N/A
440506PRP-N008	5	12.3	N/A	N/A
440506PRP-N009	4	16.9	N/A	N/A
440506PRP-N010	4	-4.0	N/A	N/A
440506PRP-N011	5	1.2	N/A	N/A
440506PRP-N012	5	18.3	N/A	N/A
440506PRP-N013	4	-4.0	N/A	N/A
440506PRP-N014	5	12.3	N/A	N/A
440506PRP-N015	5	40.1	N/A	N/A
440506QRP-N015	8	23.6	N/A	N/A
440506PRP-N016	4	2.2	N/A	N/A
440506PRP-N017	5	21.6	N/A	N/A
440506QRP-N017	8	8.9	N/A	N/A
440506PRP-N018	5	12.3	N/A	N/A
440506PRP-N019	5	9.1	N/A	N/A

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Survey Area: 5**Survey Unit:** 440506**Building:** 440**Description:** Building 440 Westside Interior, Room 113 all surfaces >2m**Biased Total Surface Activity Data Sheet**

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm ²)	Net Beta (dpm/100cm ²)	
440506PBP-N020	4	4.2	N/A	N/A
440506PBP-N021	4	10.0	N/A	N/A
440506PBP-N022	4	1.1	N/A	N/A
440506PBP-N023	5	1.8	N/A	N/A
440506PBP-N024	5	-4.2	N/A	N/A
440506PBP-N025	4	-2.0	N/A	N/A
440506PBP-N026	5	-4.2	N/A	N/A
440506PBP-N027	5	20.3	N/A	N/A
440506PBP-N028	5	5.1	N/A	N/A
440506PBP-N029	5	7.8	N/A	N/A

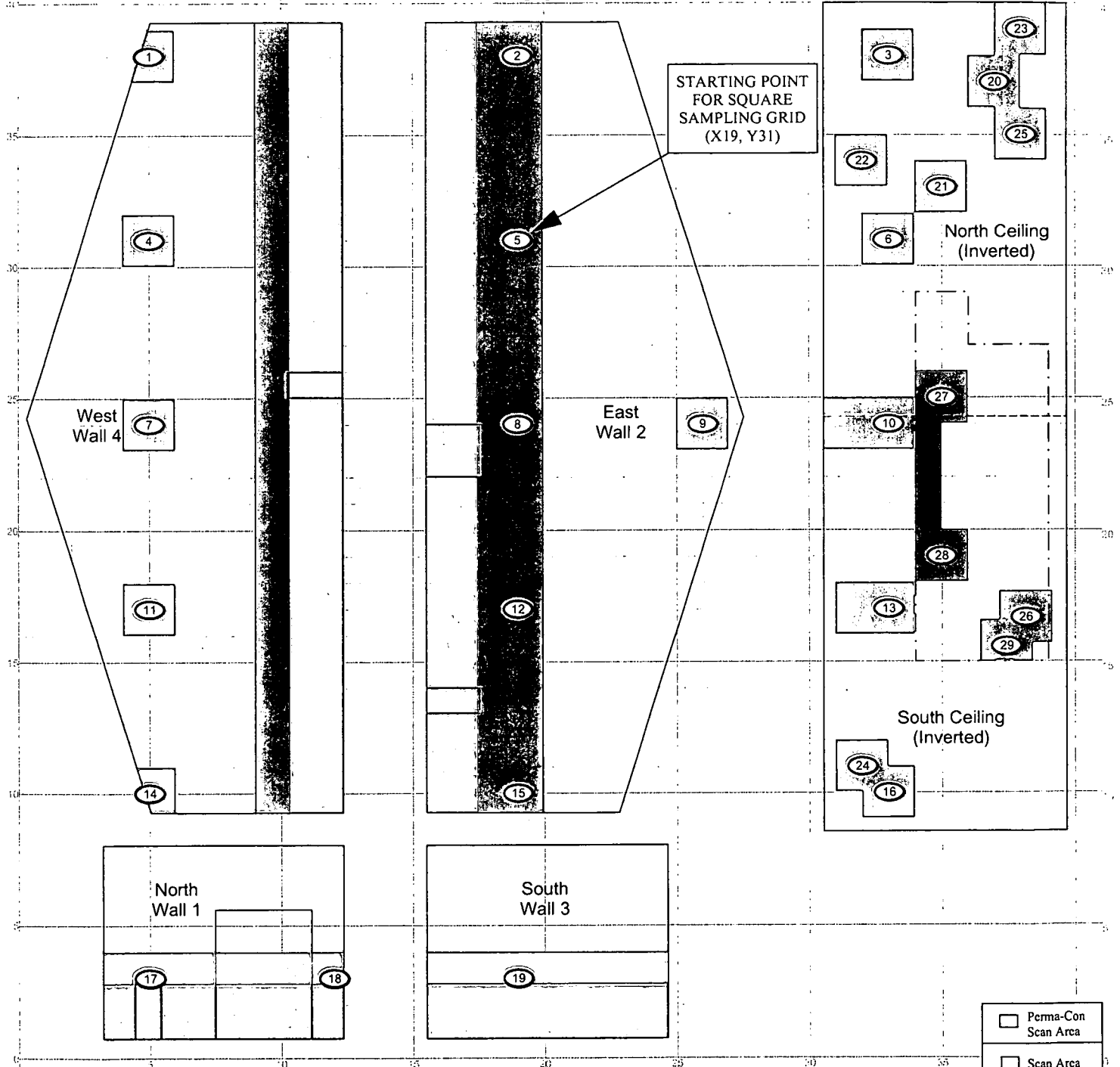
87

PRE-DEMOLITION SURVEY FOR B440

Survey Area: 5 Survey Unit: 440506 Classification: 2
 Building: 440 Westside
 Survey Unit Description: B440 Westside Rm 113 Interior Ceiling & Walls above 2 meters.
 Total Area: 845 sq. m. Floor Area: 275 sq. m.
 Grid Spacing for Survey Points: 7m X 7m

PAGE 1 OF 1

Room 113



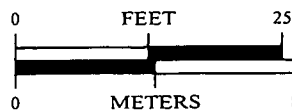
SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information
 Survey Instrument ID #(s) & RCT ID #(s):
 1-5



1 inch = 18 feet 1 grid sq. = 1 sq. m.

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 Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:



CH2MHILL
 Communications Group



MAP ID:03-0305/440-006_SC

May 25, 2005

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ATTACHMENT D

Chemical Data Summaries And Sample Maps

Asbestos Data Summary

Sample Number	Map Sample Location	Room	Material Sampled and Sample Location	Result
Building 440 Westside – RIN 04Z0566				
440-12102003-9-301	1	111	Floor tile	1.25% Chrysotile via point count
440-12102003-9-302	2	111	Ceiling tile	Non-detect
440-12102003-9-303	3	120	Drywall and mud	Non-detect
440-12102003-9-304	4	122	Paint chip from north wall	Non-detect
440-12102003-9-305	5	117	Floor tile	Non-detect
440-12102003-9-306	6	106	Paint chip, SW corner	Non-detect
440-12102003-9-307	7	105	Steam line	Non-detect
440-12102003-9-308	8	102	Drywall and mud	Non-detect
440-12102003-9-309	9	102	Floor tile	Non-detect
440-12102003-9-310	10	102	Ceiling tile	Non-detect

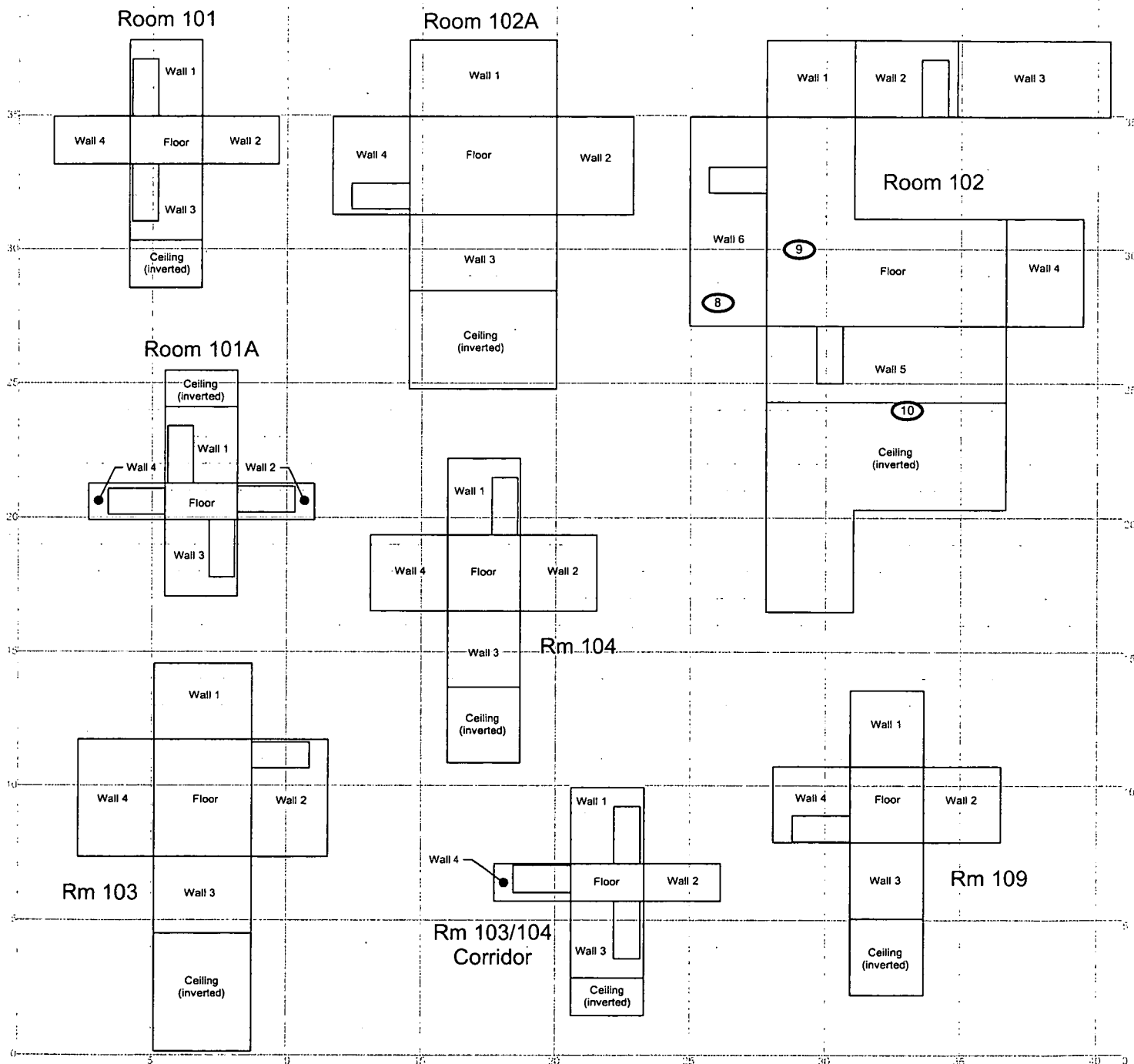
Note: Asbestos sample map pages 4, 6, 7, 8, 10, 11, 14, 15, and 16 of 16 did not contain asbestos sample locations, therefore these maps are not included in Attachment D.

CHEMICAL SAMPLE MAP

Building 440 Westside
Asbestos

PAGE 1 OF 16

B440 Interior



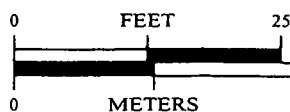
SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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- Open/Inaccessible Area
- Area in Another Survey Unit



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MAP ID: 03-0305/440IN01-ASB

Dec 17, 2003

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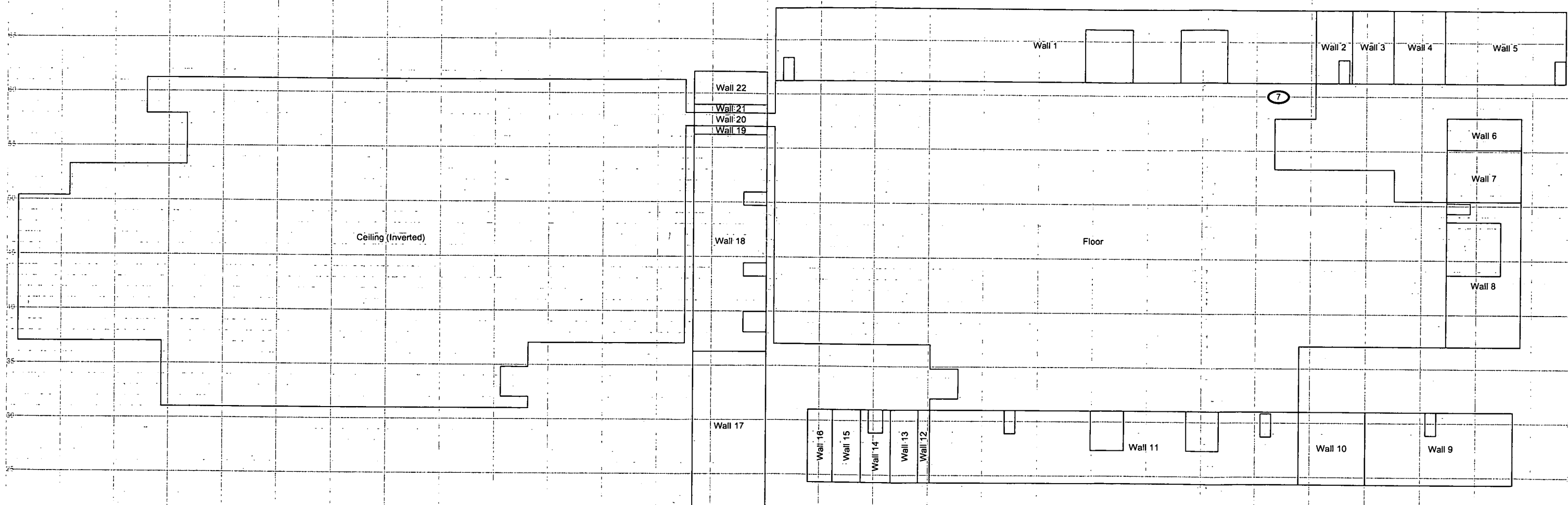
CHEMICAL SAMPLE MAP

Building 440 Westside
Asbestos

PAGE 2 OF 16

B440 Interior

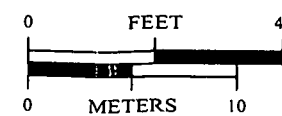
Room 105



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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1 inch = 30 feet 1 grid sq. = 1 sq. m.

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MAP ID: 03-0305/440IN02-ASB Dec 17, 2003

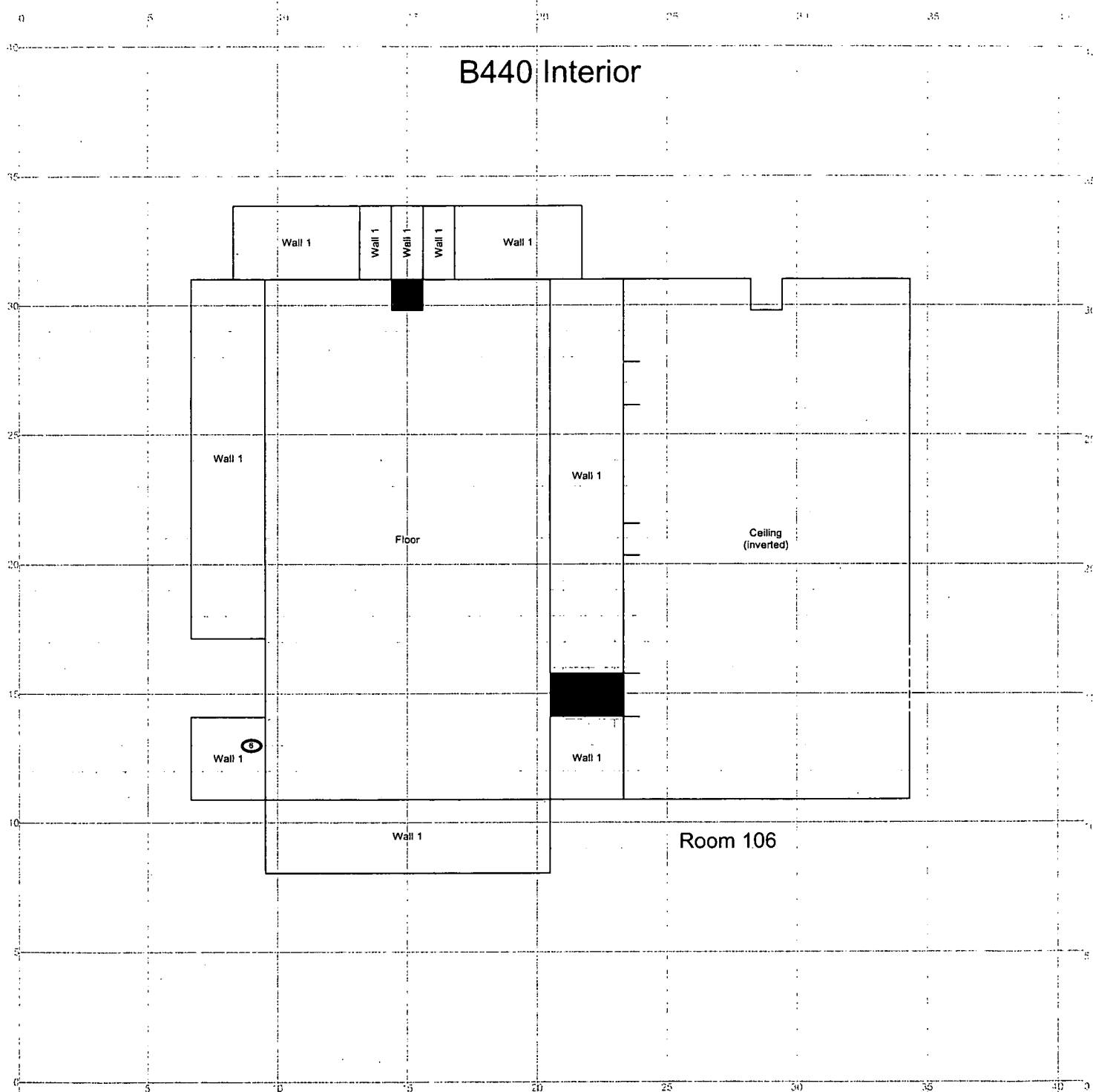
92

CHEMICAL SAMPLE MAP

Building 440 Westside
Asbestos

PAGE 3 OF 16

B440 Interior



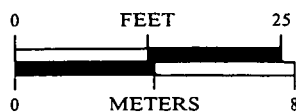
SURVEY MAP LEGEND

- ⊛ Asbestos Sample Location
- ⚠ Beryllium Sample Location
- ⊞ Lead Sample Location
- ⬠ RCRA/CERCLA Sample Location
- ⊞ PCB Sample Location

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- Open/Inaccessible Area
- Area in Another Survey Unit



1 inch = 18 feet 1 grid sq. = 1 sq. m.

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MAP ID: 03-0305/440IN03-ASB

Dec 17, 2003

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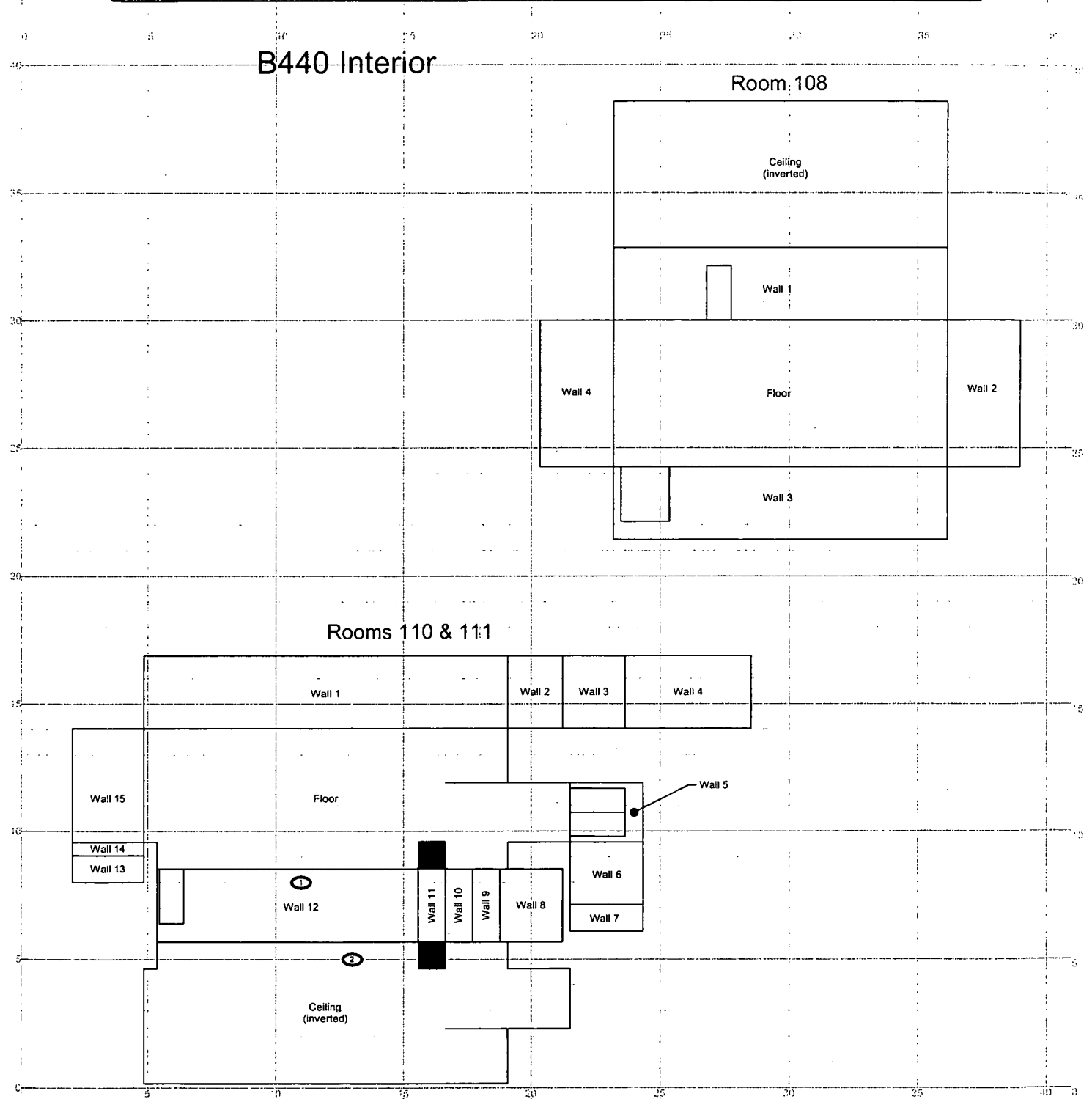
CHEMICAL SAMPLE MAP

Building 440 Westside
Asbestos

PAGE 5 OF 16

B440 Interior

Room 108

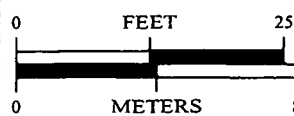


SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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- Open/Inaccessible Area
- Area in Another Survey Unit



1 inch = 18 feet 1 grid sq. = 1 sq. m.

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MAP ID: 03-0305/440IN05-ASB

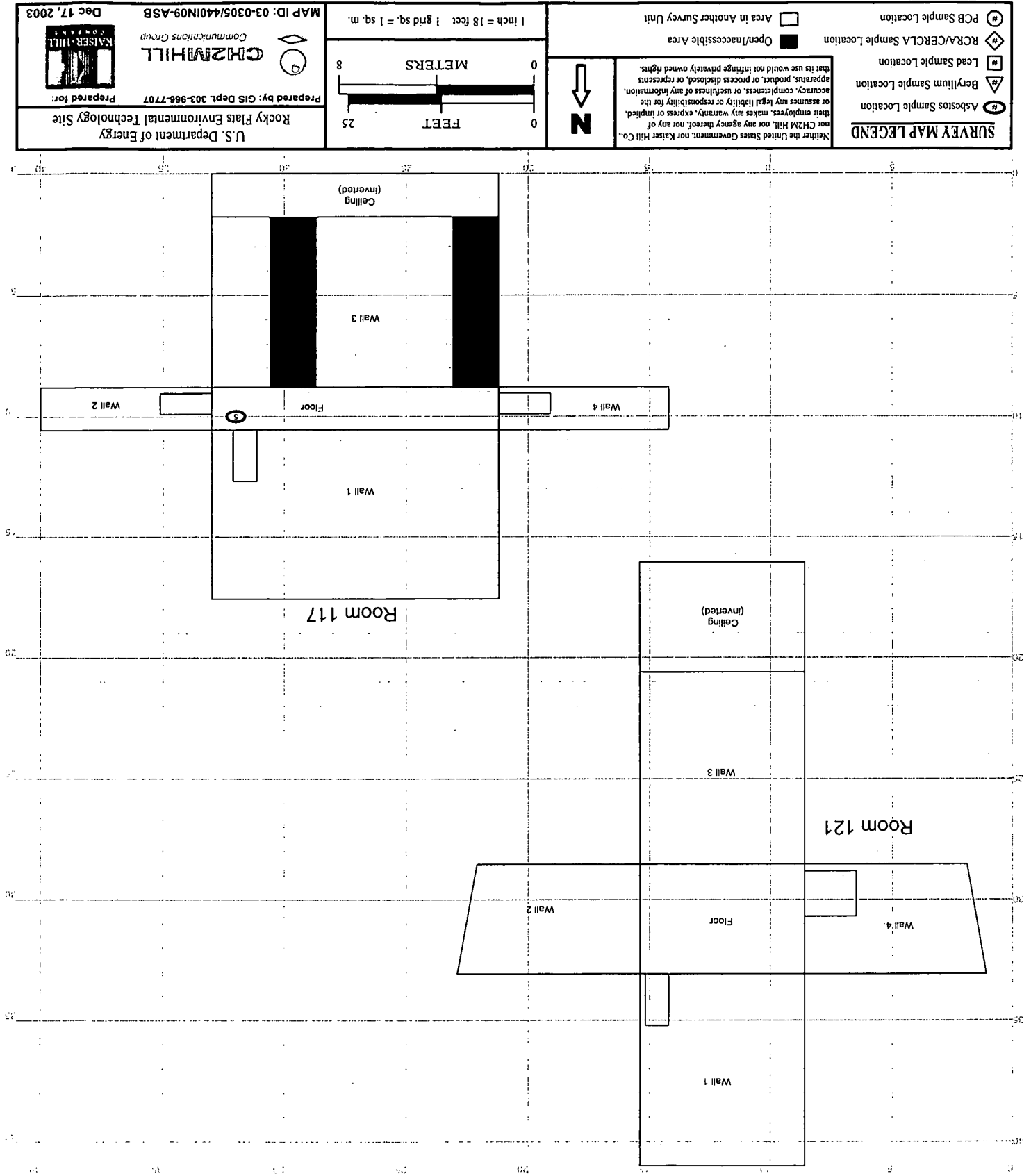
Dec 17, 2003

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CHEMICAL SAMPLE MAP

Building 440 Westside
Asbestos

PAGE 9 OF 16

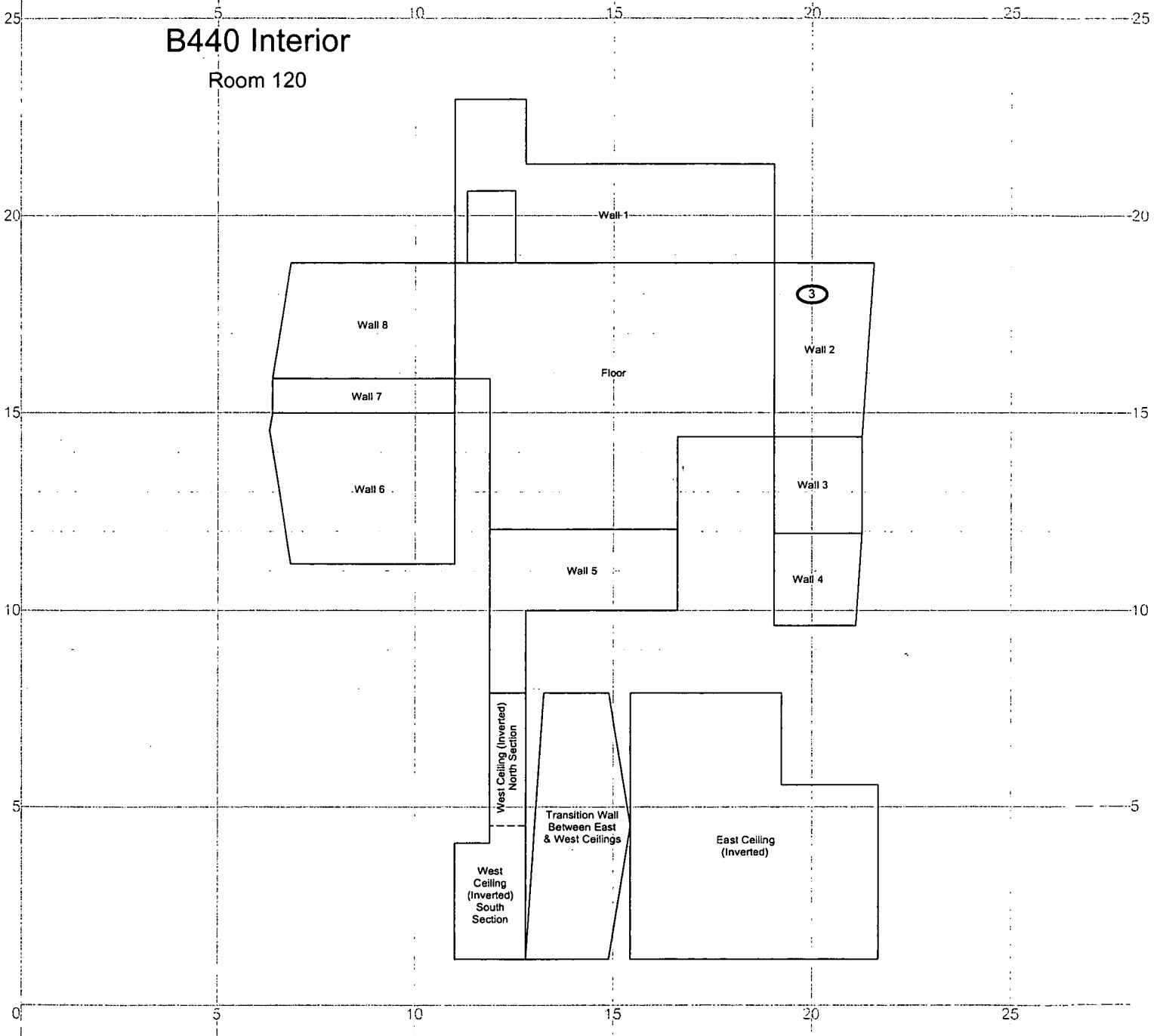


CHEMICAL SAMPLE MAP

Building 440 Westside
Asbestos

PAGE 12 OF 16

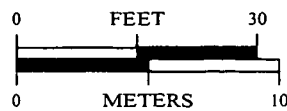
B440 Interior
Room 120



SURVEY MAP LEGEND

- ⊙ Asbestos Sample Location
- ⚠ Beryllium Sample Location
- ⊞ Lead Sample Location
- ⬠ RCRA/CERCLA Sample Location
- ⊙ PCB Sample Location

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1 inch = 24 feet 1 grid sq. = 4 sq. m.

- Open/Inaccessible Area
- Area in Another Survey Unit

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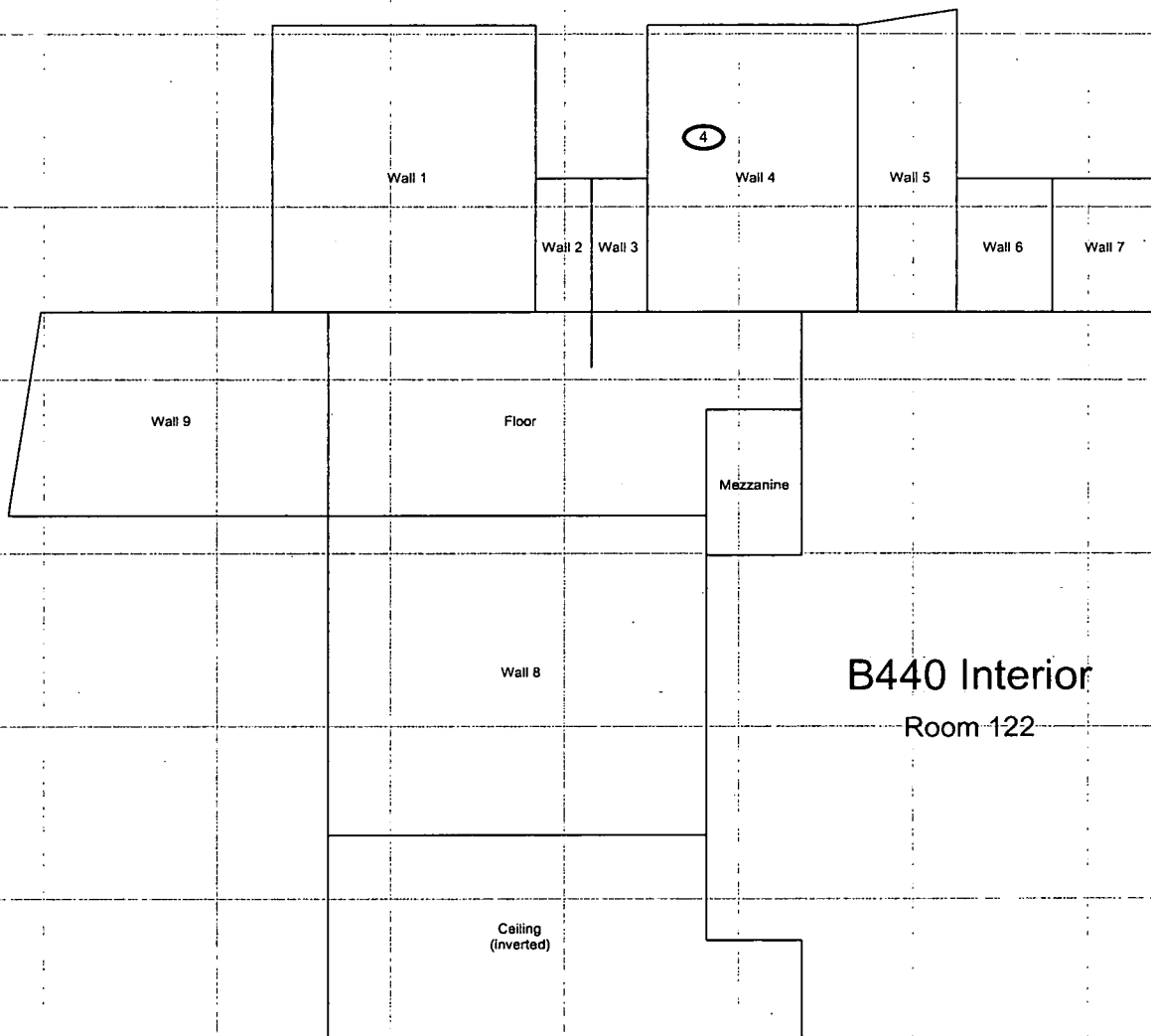
MAP ID: 03-0305/440IN12-ASB

Dec 17, 2003

CHEMICAL SAMPLE MAP

Building 440 Westside
Asbestos

PAGE 13 OF 16



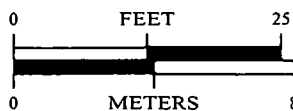
B440 Interior
Room 122

SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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- Open/Inaccessible Area
- Area in Another Survey Unit



1 inch = 18 feet 1 grid sq. = 1 sq. m.

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MAP ID: 03-0305/440IN13-ASB

Dec 17, 2003

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Beryllium Data Summary

Sample Number	Map Survey Point Location	Room	Sample Location	Result ($\mu\text{g}/100\text{ cm}^2$)
Building 440 Westside - RIN 05C0243				
440-05022005-00-001	1	119	Floor	< 0.1
440-05022005-00-002	2	105	Floor	< 0.1
440-05022005-00-003	3	108	Floor	< 0.1
440-05022005-00-004	4	112	Floor	< 0.1
440-05022005-00-005	5	114	Floor	< 0.1
440-05022005-00-006	6	111	Wall	< 0.1
440-05022005-00-009	9	112	Floor	< 0.1
440-05022005-00-011	11	114	Floor	< 0.1
440-05022005-00-012	12	121	Floor	< 0.1
440-05022005-00-013	13	112	Floor	< 0.1
440-05022005-00-014	14	102A	Floor	< 0.1
440-05022005-00-015	15	106	Floor	< 0.1
440-05022005-00-016	16	105	Floor	< 0.1
440-05022005-00-017	17	112	Floor	< 0.1
440-05022005-00-018	18	106	Floor	< 0.1
440-05022005-00-020	20	105	Floor	< 0.1
440-05022005-00-022	22	105	Floor	< 0.1
440-05022005-00-023	23	114	Floor	< 0.1
440-05022005-00-024	24	112	Floor	< 0.1
440-05022005-00-025	25	105	Floor	< 0.1
440-05022005-00-026	26	105	Floor	< 0.1
440-05022005-00-027	27	112	Floor	< 0.1
440-05022005-00-028	28	114	North Wall	< 0.1
440-05022005-00-030	30	114	Floor	< 0.1
440-05022005-00-031	31	105	Floor	< 0.1
440-05022005-00-032	32	123A	Floor	< 0.1
440-05022005-00-033	33	119	Floor	< 0.1
440-05022005-00-034	34	122	Floor	< 0.1
440-05022005-00-036	36	113	Floor	< 0.1
440-05022005-00-037	37	123	Floor	< 0.1
440-05022005-00-039	39	105	Floor	< 0.1
440-05022005-00-040	40	112	Floor	< 0.1
440-05022005-00-041	41	112	Floor	< 0.1
440-05022005-00-042	42	112	Floor	< 0.1
440-05022005-00-043	43	123A	Floor	< 0.1
440-05022005-00-044	44	115	Floor	< 0.1
440-05022005-00-045	45	120	Floor	< 0.1
440-05022005-00-046	46	123A	Floor	< 0.1
440-05022005-00-047	47	105	Floor	< 0.1
440-05022005-00-048	48	102	Floor	< 0.1
440-05022005-00-050	50	116	Wall	< 0.1
440-05022005-00-052	52	114	Floor	< 0.1
440-05022005-00-053	53	112	Floor	< 0.1
440-05022005-00-054	54	120	Floor	< 0.1
440-05022005-00-056	56	119	Floor	< 0.1
440-05022005-00-057	57	120	Floor	< 0.1
440-05022005-00-058	58	117	Floor	< 0.1
440-05022005-00-059	59	123	Floor	< 0.1
440-05022005-00-060	60	105	Floor	< 0.1
440-05022005-00-061	61	119	Floor	< 0.1
440-05022005-00-062	62	112	Floor	< 0.1
440-05022005-00-063	63	114	Floor	< 0.1
440-05022005-00-064	64	112	Floor	< 0.1
440-05022005-00-066	66	122	Floor	< 0.1
440-05022005-00-068	68	105	Floor	< 0.1
440-05022005-00-069	69	106	Floor	< 0.1
440-05022005-00-070	70	113	Floor	< 0.1

Beryllium Data Summary

Sample Number	Map Survey Point Location	Room	Sample Location	Result ($\mu\text{g}/100\text{ cm}^2$)
Building 440 Westside - RIN 05C0243 & 05Z1199				
440-05022005-00-071	71	107	Floor	< 0.1
440-05022005-00-072	72	112	Floor	< 0.1
440-05022005-00-075	75	106	Floor	< 0.1
440-05022005-00-076	76	112	Floor	< 0.1
440-05022005-00-077	77	112	Floor	< 0.1
440-05022005-00-078	78	112	Floor	< 0.1
440-05022005-00-079	79	112	Floor	< 0.1
440-05022005-00-080	80	106	Floor	< 0.1
440-05022005-00-081	81	106	Floor	< 0.1
440-05022005-00-082	82	107	Floor	< 0.1
440-05022005-00-083	83	107	Floor	< 0.1
440-05022005-00-084	84	105	Floor	< 0.1
440-05022005-00-085	85	114	Dock Wall	< 0.1
440-05032005-313-001	88	123A C-Cell	Top of work bench/enclosure	< 0.1
440-05032005-313-002	89	123A C-Cell	Inside work bench /enclosure	< 0.1
440-05032005-313-003	90	123A C-Cell	Inside work bench/enclosure	< 0.1
440-05032005-313-004	91	123A C-Cell	Top of work bench/enclosure	< 0.1
440-05032005-313-005	92	123A C-Cell	Back of work bench/enclosure	< 0.1
440-05032005-313-006	93	123A C-Cell	Underside of work bench/enclosure	< 0.1
440-05032005-313-007	94	123A C-Cell	Floor	< 0.1
440-05032005-313-008	95	123A C-Cell	Floor	< 0.1
440-05032005-313-009	96	123A C-Cell	North Wall	< 0.1
440-05032005-313-010	97	123A C-Cell	West Wall	< 0.1
440-05032005-313-011	98	123A C-Cell	South Wall	< 0.1
440-05032005-313-012	99	123A C-Cell	East Wall	< 0.1

Notes:

- Eight-seven (87) beryllium samples were collected throughout Building 440. The above sample numbers are for the Westside only. The Eastside RLCR/PDSR contained the missing numbers in the numbering sequence.
- An additional 89 in-process beryllium swipe results of Building 440 interior surfaces are included in the following pages behind the above table. Map locations are not available for these 89 in-process beryllium swipe results. These samples were collected throughout the building and support the PDS swipe results in concluding that no beryllium exists above the unrestricted release criteria in any area of the facility.

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Building No	Sample Number	Sample Work Pkg	Comp	Room Location	Analyte Name	Concentration
440	440-01182005-604-051	WIPE	RFCS	123A NORTH OF CA ROPE	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-052	WIPE	RFCS	123A SOUTH OF CA ROPE	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-053	WIPE	RFCS	123A WEST OF C-CELL DOORS CENTER	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-054	WIPE	RFCS	123A ENGINE HOIST (BLACK) HOOK BLUEBIRD MODEL	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-055	WIPE	RFCS	123A TOP OF ALPHA AIR MONITOR, NEXT TO SOUTH	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-056	WIPE	RFCS	123A FIRST STEP OF STAIRS TO GLOVEBOX ON SOUT	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-057	WIPE	RFCS	123A BLACK SWIVEL STOOL SEAT	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-058	WIPE	RFCS	123A BASE OF RED HYDRAULIC JACK ON ENGINE HOI	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-059	WIPE	RFCS	123A DOOR KNOB TO PERMACON	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-061	WIPE	RFCS	123A FLOOR N OF GLOVEBOX IN SUPPORT ARE NEAR	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-062	WIPE	RFCS	123A MAT ON FLOOR N OF C-CELL WEST WINDOW	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-063	WIPE	RFCS	123A AIR LOCK BY DOORS 34A AND 34B	BERYLLIUM AND B < 0.1000	_ UG/100CM
	440-01182005-604-064	WIPE	RFCS			

PAS: 101-109
DOES NOT CONTAIN
OFFICIAL USE ONLY INFORMATION

Name/Org: *Shigen Nylk* / Date: *11/5/08*

Industrial Hygiene Information System

Ad Hoc Sample Report

SURFACE

Building No

Sample Number	Sample Work	Pkg	Comp	Room Location	Analyte Name	Concentration
440						
440-01182005-604-064	WIPE	RFCS		123A RCT DESK INSIDE RAD COUNTER	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-01182005-604-065	WIPE	RFCS		113 IONEX UNIT FRAME UNDER NORTH DUCT	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-01182005-604-066	WIPE	RFCS		113 UNDER IONEX UNIT	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-01182005-604-067	WIPE	RFCS		113 RCT DESK N FRONT OF LUDLUM 2929S	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-01182005-604-068	WIPE	RFCS		112 CENTER OF ROOM N OF INTERSECTION TO ROOM	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-01182005-604-069	WIPE	RFCS		105 AT DOORWAY BETWEEN 106 AND 105	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-01182005-604-070	WIPE	RFCS		105 CENTER OF ROOM AT DRIVEWAY TO ROOM 112	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-02102004-604-201	WIPE	RFCS		112 QUARTERLY SAMPLING. YELLOW BURM GARAGE	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-02102004-604-202	WIPE	RFCS		112 QUARTERLY SAMPLING. DOOR #18 LATCH	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-02102004-604-203	WIPE	RFCS		113 QUARTERLY SAMPLING. BY DOOR #16T YELLOW	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-02102004-604-204	WIPE	RFCS		113 QUARTERLY SAMPLING. LUDLUM 2929 H06945 I	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-02102004-604-205	WIPE	RFCS		120 QUARTERLY SAMPLING. AT DOOR ENTRY	BERYLLIUM AND B < 0.1000 _ UG/100CM	
440-02102004-604-206	WIPE	RFCS				

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SURFACE

Building No

Sample Number

Sample Work Pkg Comp

Room Location

Analyte Name

Concentration

440

440-02102004-604-206	WIPE	RFCS	105 QUARTERLY SAMPLING. DOOR #23D IN FRONT O	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-02102004-604-207	WIPE	RFCS	141 QUARTERLY SAMPLING. ENTRANCE CENTER	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-02102004-604-208	WIPE	RFCS	114 QUARTERLY SAMPLING. CENTER OF ROOM.	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-02102004-604-209	WIPE	RFCS	111 QUARTERLY SAMPLING. IN FRONT OF EAST DO	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-02102004-604-210	WIPE	RFCS	102 QUARTERLY SAMPLING. FLOOR AT MAIN ENTRA	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-02102004-604-211	WIPE	RFCS	123B QUARTERLY SAMPLING. EXAUST FILTER INSID	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-02102004-604-212	WIPE	RFCS	123B QUARTERLY SAMPLING. ON FILTER LEFT OF H	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-02102004-604-213	WIPE	RFCS	123B QUARTERLY SAMPLING. INSIDE C-CELL	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-02102004-604-214	WIPE	RFCS	123B QUARTERLY SAMPLING. FILTER ON ENTRANCE D	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-03242004-604-001	WIPE	RFCS	123B MIDDLE OF ROOM	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-03242004-604-002	WIPE	RFCS	123B UNDER DRUM POSITIONING AREA AT SALAD BAR	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-03242004-604-003	WIPE	RFCS	123B LEFT SIDE OF SALAD BAR	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-03242004-604-004	WIPE	RFCS		

Industrial Hygiene Information System

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SURFACE

Building No

Sample Number

Sample Work Pkg Comp

Room Location

Analyte Name

Concentration

440

440-03242004-604-004	WIPE	RFCS	123B RED CART TOP SHELF	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-03242004-604-005	WIPE	RFCS	123B BATTERY OPERATED DRILL ON CART	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-03242004-604-006	WIPE	RFCS	123B TOOLS ON CART TOP SHELF	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-03242004-604-007	WIPE	RFCS	123B TOOLS ON CART MIDDLE SHELF	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-03242004-604-008	WIPE	RFCS	123B FRONT EDGE OF SALAD BAR	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-03242004-604-009	WIPE	RFCS	123B INSIDE SALAD BAR RIGHT SIDE	BERYLLIUM AND B < 0.1000 _ UG/100CM

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Building No

Sample Number

440

Sample Work Pkg Comp

Room Location

Analyte Name

Concentration

440-06022004-604-001

WIPE

RFCS

123A WHERE TOOLS HAD BEEN LEFT
OUTSIDE DOOR T

BERYLLIUM AND B < 0.1000 _ UG/100CM

440-06022004-604-002

WIPE

RFCS

123A AT STEP-OFF AREA OUTSIDE
THE BE CONTROLL

BERYLLIUM AND B < 0.1000 _ UG/100CM

440-06022004-604-003

WIPE

RFCS

123A TEST DRUM THAT CAME OUT
OF BE CONTROLLED

BERYLLIUM AND B < 0.1000 _ UG/100CM

440-06032004-604-010

WIPE

RFCS

Rev 1.

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Building No

Sample Number

Sample Work Pkg Comp

Room Location

Analyte Name

Concentration

440

440-06252004-604-105	WIPE	RFCS	120 QUARTERLY SURVEY DRUM CART YELLOW TIRES	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-06252004-604-106	WIPE	RFCS	112 QUARTERLY SURVEY CENTER OF FLOOR	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-06252004-604-107	WIPE	RFCS	106 QUARTERLY SURVEY BY TABLE	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-06252004-604-108	WIPE	RFCS	113 QUARTERLY SURVEY LUDLUM 2929	BERYLLIUM AND B < 0.0333 _ UG/100CM
440-06252004-604-109	WIPE	RFCS	105 QUARTERLY SURVEY FORK TRUCK PEDALS	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-06252004-604-110	WIPE	RFCS	105 QUARTERLY SURVEY CENTER OF ROOM	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-06252004-604-111	WIPE	RFCS	141 QUARTERLY SURVEY CENTER OF ROOM	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-06292004-604-012	WIPE	RFCS	123B C-CELL MIDDLE OF ROOM	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-06292004-604-013	WIPE	RFCS	123B TOOLS	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-06292004-604-014	WIPE	RFCS	123B GLOVES USED IN AREA	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-001	WIPE	BART	141 WEST OF 3RD COLUMN FROM WEST WALL	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-002	WIPE	BART	105 DRUM SCALE	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-003	WIPE	BART		

Industrial Hygiene Information System
Ad Hoc Sample Report
SURFACE

Building No

Sample Number	Sample Work Pkg	Comp	Room Location	Analyte Name	Concentration
440					
440-06032004-604-010	WIPE	RFCS	123B ON VENTILATED SORTING TABLE LEFT FRONT E	BERYLLIUM AND B < 0.1000 _	UG/100CM
440-06032004-604-011	WIPE	RFCS	123B ON VENTILATED SORTING TABLE RIGHT FRONT	BERYLLIUM AND B < 0.1000 _	UG/100CM
440-06032004-604-012	WIPE	RFCS	123B FRONT CENTER OF ROOM	BERYLLIUM AND B < 0.1000 _	UG/100CM
440-06032004-604-013	WIPE	RFCS	123B LEFT CENTER OF ROOM	BERYLLIUM AND B < 0.1000 _	UG/100CM
440-06032004-604-014	WIPE	RFCS	123B BOTTOM SHELF IN BACK CORNER TOOL REST	BERYLLIUM AND B < 0.1000 _	UG/100CM
440-06032004-604-015	WIPE	RFCS	123B COMPOSITE OF TOOLS	BERYLLIUM AND B < 0.0250 _	UG/100CM
440-06032004-604-016	WIPE	RFCS	123B NON-SPARKING TOOLS	BERYLLIUM AND B < 0.0500 _	UG/100CM
440-06252004-604-100	WIPE	RFCS	118 QUARTERLY SURVEY WOMEN'S LOCKER ROOM	BERYLLIUM AND B < 0.1000 _	UG/100CM
440-06252004-604-101	WIPE	RFCS	118 QUARTERLY SURVEY WOMEN'S LOCKER ROOM SIN	BERYLLIUM AND B < 0.1000 _	UG/100CM
440-06252004-604-102	WIPE	RFCS	122 QUARTERLY SURVEY CENTER OF FLOOR	BERYLLIUM AND B < 0.1000 _	UG/100CM
440-06252004-604-103	WIPE	RFCS	122 QUARTERLY SURVEY TABLE	BERYLLIUM AND B < 0.1000 _	UG/100CM
440-06252004-604-104	WIPE	RFCS	122 QUARTERLY SURVEY CENTER OF ROOM	BERYLLIUM AND B < 0.1000 _	UG/100CM
440-06252004-604-105	WIPE	RFCS			

Industrial Hygiene Information System
Ad Hoc Sample Report
SURFACE

Building No

Sample Number

Sample Work Pkg Comp

Room Location

Analyte Name

Concentration

440

440-09172004-61-003	WIPE	BART	114 15' NORTH OF COLUMN 14B	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-004	WIPE	BART	108 PHONE ON DESK CLOSEST TO WEST WALL	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-005	WIPE	BART	107 APPROX. 4' EAST OF OVERMASS AREA	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-006	WIPE	BART	106 APPROX. 4' WEST OF HOIST; DRUM STORAGE S	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-007	WIPE	BART	112 APPROX. 12' EAST OF WEST WALL IN ROW 005	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-008	WIPE	BART	113 IN FRONT OF PERSONNEL DOOR TO PERMACON	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-009	WIPE	BART	113 INSIDE PERMACON, APPROX. 3' NORTH OF GAS	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-010	WIPE	BART	120 EAST END OF ROW HS2	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-011	WIPE	BART	122 IN FRONT OF AIRLOCK DOORS (CONT.)	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-012	WIPE	BART	N/A ORANGE DRUM GRABBER	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-013	WIPE	BART	N/A FLOORBOARD OF CROWN FORKLIFT (CONT.)	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-014	WIPE	BART	N/A TINES OF CROWN FORKLIFT (CONT.)	BERYLLIUM AND B < 0.1000 _ UG/100CM
440-09172004-61-015	WIPE	BART		

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Industrial Hygiene Information System

Ad Hoc Sample Report

SURFACE

Building No

Sample Number

Sample Work Pkg Comp

Room Location

Analyte Name

Concentration

440

440-09172004-61-015

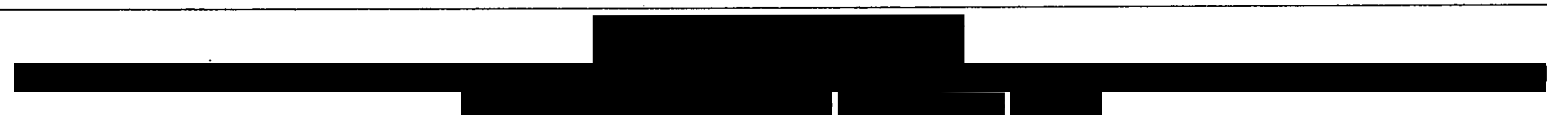
WIPE

BART

111 IN FRONT OF RESPIRATOR
CABINET

BERYLLIUM AND B < 0.1000 _ UG/100CM

Rev.



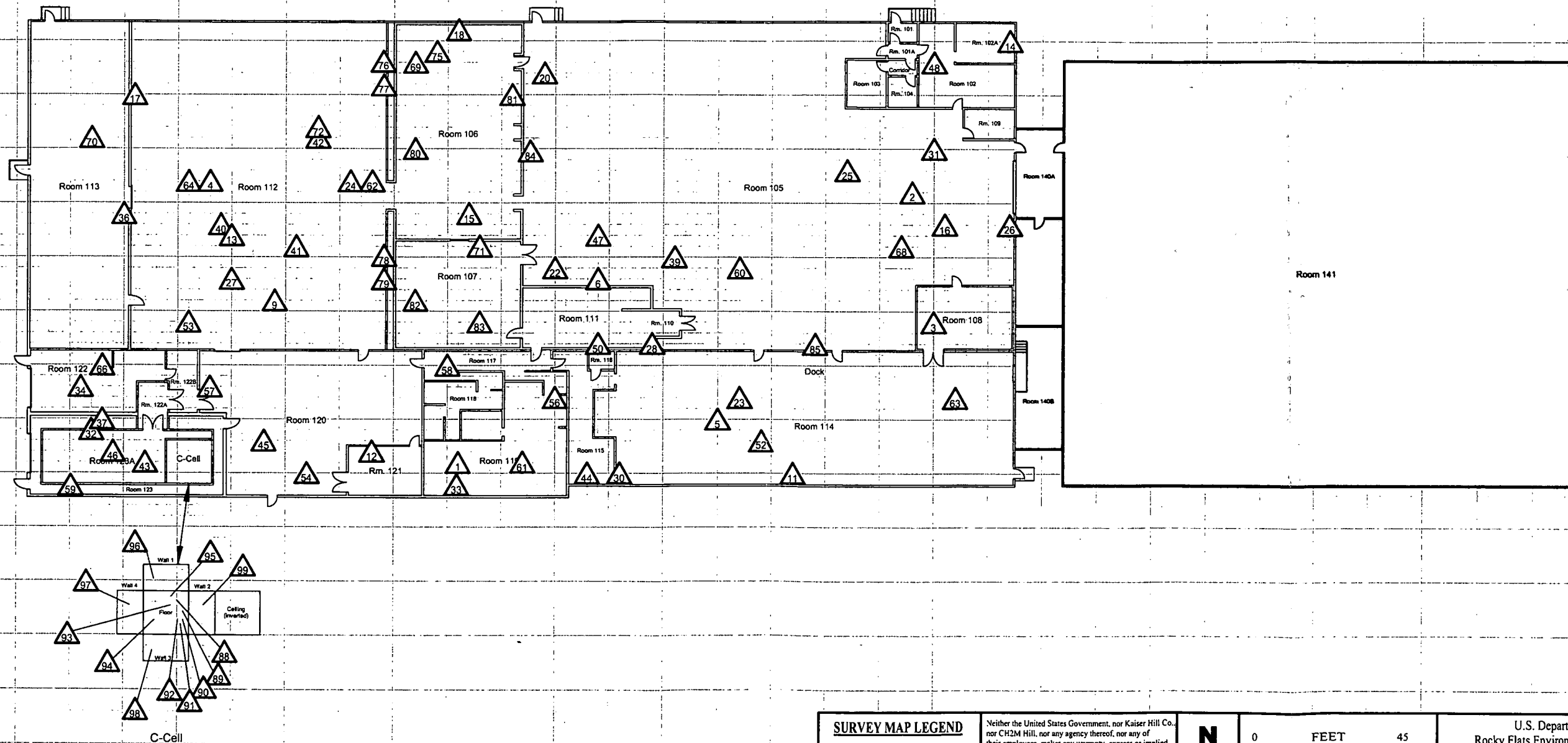
CHEMICAL SAMPLE MAP

Building 440 West Side
Beryllium

PAGE 1 OF 1

West Side

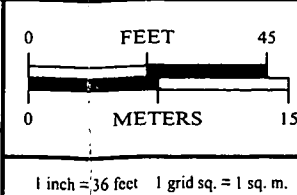
East Side



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: GIS Dept. 303-966-7707
Prepared for:
CH2MHILL
Communications Group
MAP ID: 03-0305/B440-KP
May 11, 2005

ATTACHMENT E

Data Quality Assessment (DQA) Detail

DATA QUALITY ASSESSMENT (DQA)

VERIFICATION & VALIDATION (V&V) OF RESULTS

V&V of the data confirm that appropriate quality controls are implemented throughout the sampling and analysis process, and that any substandard controls result in qualification or rejection of the data in question. The required quality controls and their implementation are summarized in a tabular, checklist format for each category of data – radiological surveys and chemical analyses (specifically asbestos and beryllium).

DQA criteria and results are provided in a tabular format for each suite of surveys or chemical analyses performed. The radiological survey assessment is provided in Table E-1 Asbestos in Table E-2 and Beryllium in Table E-3. A data completeness summary for all results is given in Table E-4.

All relevant Quality records supporting this report are maintained in the RISS Characterization Project File. The report will be submitted to the CERCLA Administrative Record for permanent storage within 30 days of approval by the Regulators. All radiological data are organized into Survey Packages, which correlate to unique MARSSIM Survey Units. Chemical data are organized by Report Identification Number (RIN) and are traceable to the sample number and corresponding sample location.

Rev. 1. Beta/gamma survey designs were not implemented for the Building 440 Westside based on the conservatism of the transuranic limits used as DCGLs in the unrestricted release decision process. Survey designs were implemented based on the transuranic limits used as DCGLs in the unrestricted release decision process. Transuranic isotope activity was evaluated against the Transuranic DCGL_w (100 dpm/100cm²) unrestricted release limits. Media samples were taken and analyzed by ISOCS Canberra gamma spectroscopy. Media results were converted to dpm/100cm² using the Media Conversion Table, evaluated against the transuranic DCGL limits, and are the values reported in the Radiological TSA Data Summary in support of the unrestricted release decision process. All results were less than the PDSP unrestricted release limits except the floor area in Room 123A and the HEPA Exhaust Plenum in Room 122 as noted below.

Consistent with EPA's G-4 DQO process, the radiological survey design for each survey unit performed per PDS requirements was optimized by checking actual measurement results acquired during pre-demolition surveys against the model output with original estimates. Use of actual sample/survey (result) variances in the MARSSIM DQO model confirms that an adequate number of surveys were acquired.

DQA SUMMARY

In summary, the data presented in this report have been verified and validated relative to the quality requirements and project decisions as stated in the original DQOs. All data are useable based on qualifications stated herein and are considered satisfactory without qualification. All media surveyed and sampled yielded results less than their associated action levels and with acceptable certainties except for the following anomalous conditions:

- Elevated radiological fixed contamination was identified in Survey Unit 440504 on the floor in Room 123A ($6,374,7 \text{ dpm}/100\text{cm}^2$) greater than the transuranic DCGL_w unrestricted release values ($100 \text{ dpm}/100\text{cm}^2$). The contaminated area of the floor will be protected prior to demolition, and removed and managed as low-level waste (LLW) during slab removal. This elevated area (i.e., the LLW red area indicated on survey map) and the elevated area measurement locations (TSA/RSA locations 10, 28, 29, 30, 31; and media sample location 10) have been removed from the survey unit data summary results.
- An internally contaminated HEPA Exhaust Plenum is still remaining in Survey unit 440503 inside Room 122 of Building 440 Westside. The plenum has been sealed closed and will be protected prior demolition, and removed and managed during demolition as LLW. There is no removable radiological contamination on the outside of the plenum or the floor of Room 123A.

Refer to the applicable Survey Unit survey maps for the locations of the radiologically contaminated floor in Room 123A and the HEPA Exhaust Plenum in Room 122.

Based upon an independent review of the radiological data, it is determined that the original project DQOs satisfied MARSSIM guidance. Minimum survey requirements were met, sampling/survey protocol was performed in accordance with applicable RSPs, survey units were properly designed and bounded, and instrument performance and calibration were within acceptable limits thereby ensuring data accuracy criteria. All results meet the PDS unrestricted release criteria except the floor area in Room 123A and the HEPA Exhaust Plenum in Room 122 as noted above

Chain of Custody was intact; documentation was complete, hold times were acceptable (where applicable,) and packaging integrity/custody seals were maintained throughout the sampling/analysis process. Level 2 Isolation Controls have been posted to prevent the inadvertent introduction of contamination into the facilities. On this basis, Building 440 Westside can be demolished and the waste managed as sanitary or LLW as appropriate.

Table E-1 V&V of Radiological Results – Building 440 Westside

V&V CRITERIA, RADIOLGICAL SURVEYS		K-H RSP 16.00 Series MARSSIM (NUREG-1575)		
QUALITY REQUIREMENTS				
	Parameters	Measure	Frequency	COMMENTS
ACCURACY	Initial calibrations	90%<x<110%	≥1	Multi-point calibration through the measurement range encountered in the field; programmatic records.
	Daily source checks	80%<x<120%	≥1/day	Performed daily/within range.
	Local area background: Field	typically < 10 dpm	≥1/day	All local area backgrounds were within expected ranges (i.e., no elevated anomalies.)
PRECISION	Field duplicate measurements for TSA	≥5% of real survey points	≥10% of reals	N/A
REPRESENTATIVENESS	MARSSIM methodology: Survey Unit 440502, 440503, 440504, 404505 and 440506 (interior) and EXT-B-001 (exterior).	statistical and biased	NA	Random w/ statistical confidence.
	Survey Maps	NA	NA	Random and biased measurement locations controlled/mapped to ±1m.
	Controlling Documents (Characterization Pkg; RSPs)	qualitative	NA	Refer to the Characterization Package (planning document) for field/sampling procedures (located in Project files); thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	Units of measure	dpm/100cm ²	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual surveys Usable results vs. unusable	>95% >95%	NA	See Table D-4 for details.
SENSITIVITY	Detection limits	TSA: ≤50 dpm/100cm ² RA: ≤10 dpm/100cm ²	all measures	MDAs ≤ 50% DCGL _w

Table E-2 V&V of Asbestos Results – Building 440 Westside

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
ASBESTOS	METHOD: EPA 600/R-93/116	LAB ---->	Reservoirs Environmental, Inc	
QUALITY REQUIREMENT		RIN ---->	RIN04Z0566	
		Measure	Frequency	COMMENTS
ACCURACY	Calibrations: Initial/continuing	below detectable amounts	≥1	Semi-quantitative, per (microscopic) visual estimation.
PRECISION	Actual Number Sampled LCSD Lab duplicates	all below detectable amounts	≥ 10 sample	Semi-quantitative, per (microscopic) visual estimation.
REPRESENTATIVENESS	COC	Qualitative	NA	Chain-of-Custody intact: completed paperwork, containers w/ custody seals.
	Hold times/preservation	Qualitative	NA	N/A
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	See original Chemical Characterization Package (planning document); for field/sampling procedures (located in project file;) thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	Measurement Units	% by bulk volume	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	Qualitative	NA	See Table E-4; final number of samples at Certified Inspector's discretion.
SENSITIVITY	Detection limits	< 1% by volume	All measures	N/A

Table E-3 V&V of Beryllium Results – Building 440 Westside

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		COMMENTS
BERYLLIUM	Prep: NMAM 7300 METHOD: OSHA ID-125G	LAB ---->	Johns Manville, Littleton, Co.	
		RIN ---->	RIN 05C0243 & 05Z1199	
QUALITY REQUIREMENTS		Measure	Frequency	All results were below associated action levels. An additional 89 in-process beryllium swipe results of Building 440 interior surfaces are included in this report. Refer to Footnote 2 in Attachment D for further information.
ACCURACY	Calibrations		≥1	
	Initial	linear calibration	≥1	
	Continuing	80%<%R<120%	≥1	
	LCS/MS	80%<%R<120%	≥1	
	Blanks – lab & field	<MDL	≥1	
	Interference check std (ICP)	NA	NA	
PRECISION	LCSD	80%<%R<120% (RPD<20%)	≥1	
	Field duplicate	all results < RL	≥1	
REPRESENTATIVENESS	COC	Qualitative	NA	
	Hold times/preservation	Qualitative	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	Measurement units	ug/100cm ²	NA	
COMPLETENESS	Plan vs. Actual samples	>95%	NA	
	Usable results vs. unusable	>95%	NA	
SENSITIVITY	Detection limits	MDL of 0.00084 ug/100cm ²	all measures	

Table E-3 Data Completeness Summary – Building 440 Westside

ANALYTE	Building/Area/ Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Asbestos	Building 440 Westside (interior)	10 samples (biased)	10 samples (biased)	¹ ACM identified > 1% by volume	40 CFR765.86; 5 CCR 1001-10; EPA 600/R-93/116 RIN04Z0566 ¹ Refer to Section 4.1 and DQA section for discussion of ACM identified > 1%. The ACM was abated prior to this RLCR/PDSR in accordance CDPHE, Regulation No. 8, Part B, <i>Emission Standards for Asbestos</i> . There is approximately 300 square feet of Category 1 non-friable asbestos floor tile that will remain in the facility during demolition. Per the demolition work package, the asbestos floor tile surfaces will be protected during demolition and managed appropriately. The remaining floor tile will be disposed of as sanitary waste.
Beryllium	Building 440 Westside (interior)	70 samples (60 random/10 biased)	[^] 82 samples (60 random/22 biased)	No contamination found at any location, all results were below associated action levels	10CFR850; OSHA ID-125G RIN05C0243 - Bldg. 440 Westside Be Map Locations: 1-6, 9, 11-18, 20, 22-28, 30-34, 36, 37, 39-48, 50, 52-54, 56-64, 66, 68-72 and 75-85. RIN 05Z1199 - Bldg. 440 Westside Be Map Locations: 88-99. The remaining samples can be found in the Bldg. 440 Eastside RLC/PDS Report. [^] The Chemical Characterization Plan required 75 random and 10 biased samples based on Building 440 square footage. As this RLC/PDS applies only to the Westside, only 60 random and 22 biased samples were taken and are reported in this Westside RLC/PDS. The remaining samples required per the CCP were taken in Building 440 Eastside and are reported in the Eastside RLCR/PDSR. An additional 89 in-process beryllium swipe results of Building 440 interior surfaces are included in this report. Refer to Footnote 2 in Attachment D for further information. No results above the action level (0.2 ug/100cm ²) or investigative level (0.1 ug/100cm ²).

Table E-3 Data Completeness Summary – Building 440 Westside

ANALYTE	Building/Area/ Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area 5 Survey Unit: 440502 Building 440 – Rooms 101, 101A, 102, 102A, 103-111 and 116-119 Floor, Walls and Ceiling (Interior)	56 α TSA (46 systematic/10 biased) 56 α Smears (46 systematic/10 biased) 10 Media Samples and 10 PRE and 10 POST TSA and RSA samples 3 QC TSA 50% scan of the floor; 5% scan of the remaining interior surfaces	56 α TSA (46 systematic/10 biased) 56 α Smears (46 systematic/10 biased) 10 Media Samples and 10 PRE and 10 POST TSA and RSA samples 3 QC TSA 75% scan of the floor; 5% scan of the remaining interior surfaces	No contamination at any location; all values are below unrestricted release levels	Transuranic DCGLs used. Class 2 Survey Unit.
Radiological	Survey Area 5 Survey Unit: 440503 Building 440 – Rooms 112, 120, 121, 122, 122A, 122B, 123 and 123A (Exterior of Permacon) and Floors, Walls and Ceiling (Interior)	25 α TSA (15 systematic/10 biased) 25 α Smears (15 systematic/10 biased) 3 Media Samples and 3 PRE and 3 POST TSA and RSA samples 2 QC TSA	26 α TSA (15 systematic/11 biased) 26 α Smears (15 systematic/11 biased) 3 Media Samples and 3 PRE and 3 POST TSA and RSA samples 2 QC TSA	¹ No contamination at any location; all values are below unrestricted release levels	Transuranic DCGLs used. Class 2 Survey Unit. ¹ An internally contaminated HEPA Exhaust Plenum is still remaining in Survey unit 440503 inside Room 122 of Building 440 Westside. The plenum has been sealed closed and will be protected prior demolition, and removed and managed during demolition as LLW. Refer to Section 3.0 and the Data Quality Assessment for further discussion.

Table E-3 Data Completeness Summary – Building 440 Westside

ANALYTE	Building/Area/ Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
		50% scan of the floor; 5% scan of the remaining interior surfaces	90% scan of the floor; 5% scan of the remaining interior surfaces		
Radiological	Survey Area 5 Survey Unit: 440504 Building 440 - Room 123A (Interior of Permacon), All Surfaces	27 α TSA (17 systematic/10 biased) 27 α Smears (17 systematic/10 biased) 4 Media Samples and 4 PRE and 4 POST TSA and RSA samples 2 QC TSA 100% scan of all surfaces	31 α TSA (17 systematic/14 biased) 31 α Smears (17 systematic/14 biased) 4 Media Samples and 4 PRE and 4 POST TSA and RSA samples 2 QC TSA 100% scan of all surfaces	¹ Elevated contamination was identified greater than the unrestricted release levels	Transuranic DCGLs used. Class I Survey Unit. ¹ Elevated radiological contamination (6,374.7 dpm/100cm ²) was identified on the floor in Room 123A greater than the DCGL _w unrestricted release limits (100 dpm/100cm ²). The area will be protected during demolition and managed and disposed of as LLW during demolition activities. Refer to the PDSR Section 3.0 and the Data Quality Assessment, and the data summary comments page for further discussion. This elevated area (i.e., the LLW red area indicated on survey map) and the elevated area measurement locations (TSA/RSA locations 10, 28, 29, 30, 31; and media sample location 10) have been removed from the survey unit data summary results.
Radiological	Survey Area 5 Survey Unit: 440505 Building 440 Room 113 Floors and Walls < 2 meters (Interior)	66 α TSA (56 systematic/10 biased) 66 α Smears (56 systematic/10 biased) 21 Media samples and 21 PRE and 21 POST TSA and RSA 3QC TSA 100% scan of all surfaces	66 α TSA (56 systematic/10 biased) 66 α Smears (56 systematic/10 biased) 21 Media samples and 21 PRE and 21 POST TSA and RSA 3QC TSA 100% scan of all surfaces	No contamination at any location; all values below unrestricted release levels	Transuranic DCGLs used. Class I Survey Unit.

Table E-3 Data Completeness Summary – Building 440 Westside

ANALYTE	Building/Area/ Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area 5 Survey Unit: 440506 Building 440 – Room 113, All Surfaces > 2 meters (Interior)	29 α TSA (19 systematic/10 biased) 29 α Smears (19 systematic/10 biased) 2 QC TSA 10% scan of walls and ceiling	29 α TSA (19 systematic/10 biased) 29 α Smears (19 systematic/10 biased) 2 QC TSA 15% scan of walls and ceiling	No contamination at any location; all values below unrestricted release levels	Transuranic DCGLs used. Class 2 Survey Unit.